ORDER NO. SD83082626C2

Service Manual

FM/AM Stereo Cassette Receiver

SA-K6
[EGA]

SA-K6(R), (W)
[EGA]

*The colours of this model include silver, red and white.
*The red type model is provided with (R) in the service manual.
*The white type model is provided with (W) in the service manual.

Area
* [EGA] is available in F.R. Germany.

TECHNISCHE DATEN
(Spezifikationen Können infolge von Verbesserungen ohne Ankündigung geändert werden.)

(DIN 45 500)

■ VERSTÄRKERTEIL

Dauerton-Ausgangsleistung bei 20 Hz ~ 20 kHz	
beide Kanäle ausgesteuert	2 × 20W (4 Ω) 2 × 20W (8 Ω)
Dauerton-Ausgangsleistung bei 40 Hz ~ 16 kHz	
beide Kanäle ausgesteuert	2 × 22W (4 Ω) 2 × 22W (8 Ω)
Dauerton-Ausgangsleistung bei 1 kHz	
beide Kanäle ausgesteuert	2 × 24W (4 Ω) 2 × 22W (8 Ω)
Gesamtklirrfaktor	
Nennleistung bei 20 Hz ~ 20 kHz	0,8% (4 Ω) 0,4% (8 Ω)
Nennleistung bei 40 Hz ~ 16 kHz	0,8% (4 Ω) 0,4% (8 Ω)
Nennleistung bei 1 kHz	0,4% (4 Ω) 0,2% (8 Ω)
halbe Nennleistung bei 20 Hz ~ 20 kHz	0,2% (8 Ω)
halbe Nennleistung bei 1 kHz	0,1% (8 Ω)
−26 dB Leistung bei 1 kHz	0,2% (4 Ω)
50 mW Leistung bei 1 kHz	0,2% (4 Ω)
Intermodulationsfaktor	
Nennleistung bei 250 Hz: 8 kHz = 4:1, 4 Ω	0,8%
Nennleistung bei 60 Hz: 7 kHz = 4:1, nach SMPTE, 8 Ω	0,4%
Leistungsbandbreite	
beide Kanäle ausgesteuert bei −3 dB	10 Hz ~ 45 kHz (4 Ω)
Dämpfungsfaktor	15 (4 Ω), 30 (8 Ω)
Eingangsempfindlichkeit und -impedanz	
Phono	2,5 mV/47 kΩ
AUX/CD/VIDEO	150 mV/33 kΩ
Micro (MIC)	1,5 mV/10 kΩ
EXT. IN	150 mV/18 kΩ

Maximale TA-Eingangsspannung (1 kHz, eff.)	120 mV
Geräuschabstand	
Nennleistung (4 Ω)	
Phono	70 dB (nach IHF, A: 72 dB 8Ω)
AUX/CD/VIDEO	87 dB (nach IHF, A: 84 dB 8Ω)
Micro (MIC)	70 dB (nach IHF, A: 70 dB 8Ω)
−26 dB Leistung (4 Ω)	
Phono	66 dB
AUX/CD/VIDEO	69 dB
Micro (MIC)	66 dB
50 mW Leistung (4 Ω)	
Phono	65 dB
AUX/CD/VIDEO	68 dB
Micro (MIC)	65 dB
Frequenzgang	
Phono	RIAA-Standardkurve ±1 dB (30 Hz ~ 15 kHz)
AUX/CD/VIDEO	10 Hz ~ 45 kHz (−3 dB)
Micro (MIC)	20 Hz ~ 15 kHz (−3 dB)
Klangregler	
Tiefenverstärkung (LOW BOOST)	50 Hz, +10 dB
Höhenverstärkung (HIGH BOOST)	20 kHz, +7 dB
Rauschfilter	5 kHz, −6 dB/Okt.
Ausgangsspannung und -impedanz	
Vorverstärker (REC OUT)	150 mV/600 Ω
EXT OUT (EXT. OUT)	150 mV/600 Ω
Kanalabweichung (Aux, 250 Hz ~ 6300 Hz)	±3 dB
Übersprechdämpfung (Aux, 1 kHz)	45 dB
Kopfhörerpegel und -impedanz	440 mV/220 Ω
Lautsprecherimpedanz	4 Ω ~ 16 Ω

Technics

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

■ UKW-TUNERTEIL

Wellenbereich	88 ~ 108 MHz
Eingangsempfindlichkeit	1,5 μV (nutzbar nach IHF)
S/R 30 dB	1,3 μV (75 Ω)
S/R 26 dB	1,2 μV (75 Ω)
S/R 20 dB	0,9 μV (75 Ω)
Gesamtklirrfaktor bei 1 kHz	
Mono	0,15%
Stereo	0,3%
Geräuschabstand	
Mono	62 dB (75 dB nach IHF)
Stereo	60 dB (70 dB nach IHF)
Frequenzgang	20 Hz ~ 15 kHz +0,5 dB ~ −1,5 dB
Trennschärfe bei Störsender	60 dB
Einfangverhältnis	1,0 dB
Spiegelfrequenz-Dämpfung bei 98 MHz	40 dB
ZF-Dämpfung bei 98 MHz	85 dB
Ansprechdämpfung auf Nebenfrequenzen bei 98 MHz	80 dB
MW-Unterdrückung	50 dB
Übersprechdämpfung	
1 kHz	40 dB
10 kHz	30 dB
Trägerrest	
19 kHz	−65 dB (−70 dB nach IHF)
38 kHz	−67 dB (−72 dB nach IHF)
Kanalabweichung (250 Hz ~ 6300 Hz)	±1,5 dB
Begrenzereinsatz	1,0 μV
Bandbreite	
ZF-Verstärker	180 kHz
UKW-Demodulator	1000 kHz
Antennenanschluß	75 Ω (unsymmetrisch)

■ MW-TUNERTEIL

Wellenbereiche	525 ~ 1605 kHz
Eingangsempfindlichkeit (S/R 20 dB)	20 μV, 300 μV/m
Trennschärfe	27 dB
Spiegelfrequenz-Dämpfung bei 1000 kHz	40 dB
ZF-Dämpfung bei 1000 kHz	60 dB

■ TONBANDTEIL

Typ	Stereo-Cassettendeck
Spurlage	4 Spuren/2 Kanäle
Tonkopfbestückung	
Aufnahme/Wiedergabe	Tonkopf aus Hartpermalloy
Löschen	2-Spalt-Löschkopf aus Ferrit
Motoren	elektronisch geregelter Gleichstrommotor
Aufnahmesystem	Wechselstrom-Vormagnetisierung
Vormagnetisierungsfrequenz	85 kHz
Löschsystem	Wechselstrom-Löschung
Bandgeschwindigkeit	4,8 cm/s
Leistungsbandbreite	
Metal	20 Hz~17 kHz 35 Hz~17 kHz (DIN)
CrO2	20 Hz~16 kHz 35 Hz~16 kHz (DIN)
Normal	20 Hz~15 kHz 35 Hz~15 kHz (DIN)
Fremdspannungsabstand	(Signalpegel = Vollaussteuerung; CrO2-Band)
mit Dolby	66 dB (über 5 kHz)
ohne Dolby	56 dB
Gleichlaufschwankungen	0,05% (bewertet) ±0,14% (DIN)
Umspulzeit	ca. 90 Sek. (für Cassette C-60)

■ ALLGEMEINE DATEN

Leistungsaufnahme	205 W
Netzspannung	Wechselstrom 50 Hz/60 Hz, 220V
Abmessungen (B×H×T)	315 × 103 × 375 mm
Gewicht	7,1 kg

■ CONTENTS

Page
PROTECTION CIRCUITRY 2
LOCATION OF CONTROLS 3
MASTER OPERATION OF CASSETTE DECK 4
INSTALLATION OF THE AM LOOP ANTENNA 5
BEFORE REPAIR AND ADJUSTMENT 5
DISASSEMBLY INSTRUCTIONS . . . . 6 ~ 10
DIAL CORD INSTALLATION GUIDE 10
MEASUREMENTS AND ADJUSTMENTS . . . . 11 ~ 16
(MESSUNGEN UND JUSTIERUNGEN)
PRINTED CIRCUIT BOARD WIRING
CONNECTION DIAGRAM 17
PRINTED CIRCUIT BOARDS . . . . 19 ~ 23
Page
TERMINAL GUIDE OF TRANSISTORS,
IC'S AND DIODES 23
RESISTORS AND CAPACITORS 24
BLOCK DIAGRAMS . . . . 26 ~ 31
FUNCTION OF TERMINAL (Logic control IC) 32
REPLACEMENT PARTS LIST AND
EXPLODED VIEW (Cassette deck mechanism) 34
SCHEMATIC DIAGRAM . . . . 36 ~ 44
REPLACEMENT PARTS LIST (Electric and Cabinet
parts) 45
EXPLODED VIEW (Cabinet) 47

■ PROTECTION CIRCUITRY

The protection circuitry may have operated if eigher of the following conditions is noticed:

- No sound is heard when the power is turned on.
- Sound stops during performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker with an impedance less than the indicated rated impedance of the amplifier are used.

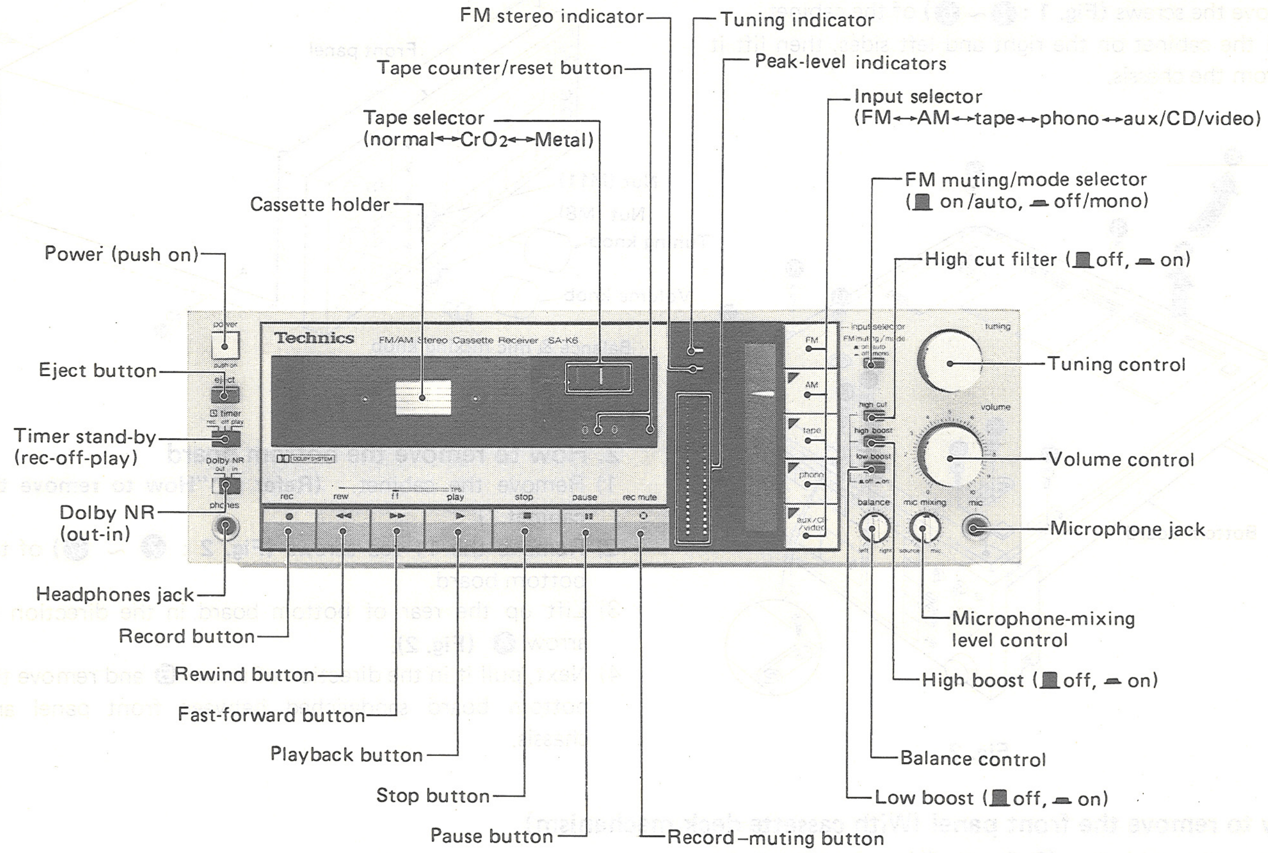
If this occurs, follow the procedure outlined below:

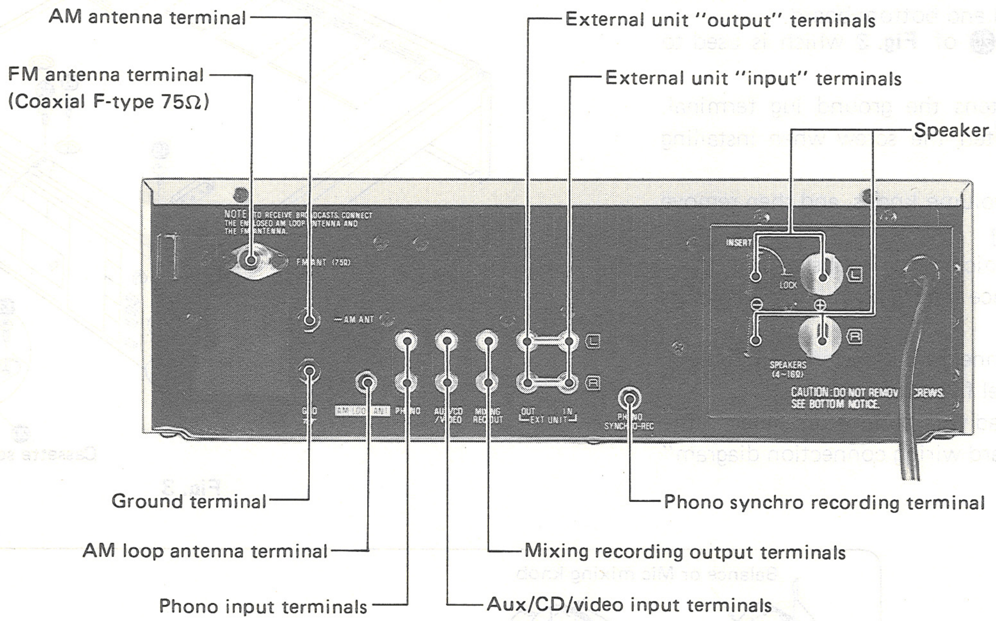
1. Turn off the power.
2. Determine the cause of the problem and correct it.
3. Turn on the power once again.

Note:

When the protection circuitry functions the unit will not operate unless the power is first turned off and then on again.

■ LOCATION OF CONTROLS


FM stereo indicator
Tuning indicator
Tape counter/reset button
Peak-level indicators
Tape selector (normal↔CrO2↔Metal)
Input selector (FM↔AM↔tape↔phono↔aux/CD/video)
FM muting/mode selector (■ on/auto, ▬ off/mono)
Cassette holder
Power (push on)
High cut filter (■ off, ▬ on)
Eject button
Tuning control
Timer stand-by (rec-off-play)
Volume control
Dolby NR (out-in)
Microphone jack
Headphones jack
Microphone-mixing level control
Record button
Rewind button
High boost (■ off, ▬ on)
Fast-forward button
Playback button
Balance control
Stop button
Low boost (■ off, ▬ on)
Pause button
Record–muting button
Technics
FM/AM Stereo Cassette Receiver SA-K6


AM antenna terminal
External unit "output" terminals
FM antenna terminal (Coaxial F-type 75Ω)
External unit "input" terminals
Speaker terminals
Ground terminal
Phono synchro recording terminal
AM loop antenna terminal
Mixing recording output terminals
Phono input terminals
Aux/CD/video input terminals
CAUTION: DO NOT REMOVE SCREWS. SEE BOTTOM NOTICE.

*Phono input capacitance is about 150pF.
*"Dolby" and the double-D symbol are trademarks of Dolby Laboratories.
*Noise reduction system manufactured under license from Dolby Laboratories.

■ MASTER OPERATION OF CASSETTE DECK

1. Auto-repeat playback

1) Depress "play" button. (Indicator "play" lights up, and tape is played.)
2) Depress "play" button again. (Indicator "play" blinks.)

- Auto-repeat playback:
  When the tape comes to its end, it is automatically rewound and played from the beginning. This is repeated until "stop" button is depressed.

2. Automatic selector (TPS : Tape Program Selector)

(With "play" button depressed)

1) Depress "ff" button when selecting the next tune.
   Repeat this operation when selecting a tune, skipping a few tunes.
2) Depress "rew" button when playing the same tune once again.
   Repeat this operation when selecting a tune, skipping a few tunes.

- Automatic selector system (TPS).
  The tape is fast forwarded or rewound to the start point of the desired tune, and is automatically played back.

3. Synchro-recording

Synchro-recording means that the recording automatically begins when the stylus of the turntable is lowered to the disc surface. Then, when the stylus is lifted from the disc surface, a blank recording is made for about 3 seconds, and the unit changes to the recording stand-by mode.

Such synchro-recordings are possible only if a turntable (such as the Technics SL-6) with a synchro-recording terminal is connected to this unit. The Technics SL-6 is an especially excellent choice to use with this unit for synchro-recording, because as many as 10 tunes on the disc can, by "automatic editing," be tape recorded by this unit in any desired order.

1. Press the input selector marked "phono."
2. Press the record button (recording stand-by mode).
3. Prepare the turntable for disc play.
4. Press the start button of the turntable. (The recording will begin automatically.)

During disc play (while the stylus is on the disc surface):

- The record-mute button and pause button have no effect.
- To stop during a recording, press the stop button.
- To start recording once again, press the record button. (The recording starts immediately, without going to the recording stand-by mode.)

Note:

*When synchro-recording, make sure that the ground terminal of the turntable is connected to that of this unit with ground wire (attached to the turntable).
If the wire connection is not perfect, synchro-recording is not possible.

*When clearing the synchro-recording mode to start normal recording, be sure to disconnect the synchro-recording cord on this unit side.
Disconnecting the cord on the turntable side will not cancel the synchro-recording system.

4. Re-recording

"Re-recording" as used here means to find the beginning a tune to be re-recorded, to make a blank recording (about 3 seconds) before the recording, and then to make the new recording itself.

1. While pressing the record button during the recording stand-by mode or during a reocrding, rewind the tape by pressing the rewind button.
2. After the tape is rewound, make a blank recording (about 3 seconds). The unit will then be in the recording stand-by mode.
3. Press the playback button; the recording will begin.

- Note that the above steps from re-recording should be followed only after the original recording has been in progress for at least 10 seconds or more (in order to aussure precise return to the beginning of the tune).

5. Microphone mix-recording

Another tape deck is necessary when making a mix recording if one of the sound sources is a recorded tape.

1. Proceed with the microphone mixing.
2. Record by following the procedure described on the page at the left.

- Distribution of sound during recording.
  Sound is recorded as adjusted by the microphone-mixing level control (as heard from the speakers).

6. Tape-to-tape recording (tape dubbing)

If another tape deck is connected to the "MIXING REC OUT" and "AUX/CD/VIEO" terminals on the back of this unit, dubbing (tape-to-tape recording) between the cassette deck of this unit and the other tape deck is possible.

1. Dubbing from this unit to another tape deck.
   SA-K6 operation:
   1) Press the input selector marked "tape".
   2) Follow the procedure for tape playback operation.
   Other tape deck operation:
   3) Follow the procedure for recording.

- Note that an abnormal sound will be emitted if the input selector marked "aux/CD/video" is pressed.

2. Dubbing from another tape deck to this unit.
   Other tape deck operation:
   1) Follow the procedure for tape playback.
   SA-K6 operation:
   2) Press the input selectors to the "aux/CD/video" position.
   3) Follow the procedure for recording.

7. A blank recording

A blank recording can be made if the record-mute button is pressed while a recording is in progress or while the unit is in the recording stand-by mode. This can be conveniently used, for example, to avoid recording commercials or disc-jockey chatter while recording a radio broadcast or to make a blank-recorded space of any desired length (in order to make the TPS features function smoothly).

1. After the recording is finished, press the record-mute button:
   a) Press it once momentarily.
      The record indication lamp will flash, and a blank recording of about 3 seconds will be made (automatic record muting).
   b) Press the button slightly longer.
      The record indication lamp will flash, and the blank recording will be made as long as the button is pressed.
2. The unit will then be in the recording stand-by mode.
3. Press the playback button and start the recording.

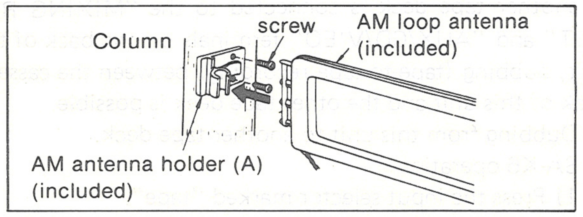
■ INSTALLATION OF THE AM LOOP ANTENNA

This unit includes a highly sensitive loop antenna for AM broadcast reception. No outdoor antenna is necessary unless this unit is used in an area where signals are especially weak. (Connect the AM loop antenna even when an outdoor antenna is used.)

Pay attention to the following points when attaching the antenna.

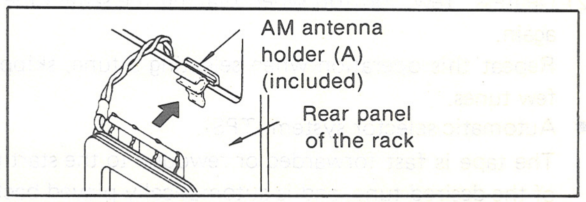
1) Find the height and direction of the antenna where reception is best and then fix it vertically to the wall, rack, etc.
2) Do not attach it horizontally (to do so would impair reception).
3) Do not attach it close to metal surfaces, power cords, or speaker wires (to do so would result in noise).
4) Do not attach it close to a tape deck (when the tape deck is being used, chirping or beeping sounds may be received).

1) When attaching the antenna to a wall, column.

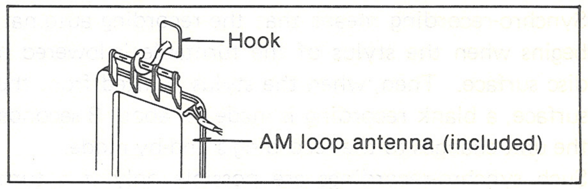


*Holder (A) . . . . Part No. SMA233–1
*Holder (B) . . . . Part No. SMA231

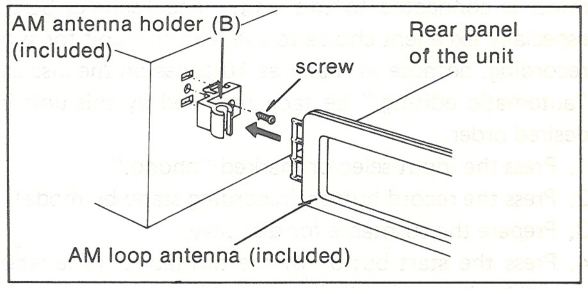
2) When attaching the antenna to the rack.



3) If a hook is used
(if the holder can't be attached by screws)



4) When attaching the antenna to the unit.



■ BEFORE REPAIR AND ADJUSTMENT

1. Turn off the power supply and short-circuit of power supply capacitors (C701, C702, 6800μF) at resistance (about 10Ω, 5W) in order to discharge the charged voltage. Do not short between C701/702 by screwdriver. It may damage the component.
2. Before turning on the power supply after completion of repair, slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current is free of abnormality. The consumed current at 60Hz/50Hz in no signal mode is shown below with respect to supply voltage 220V.

Power supply voltage		AC220V
Consumed current	50 Hz	75 ~ 155mA
	60 Hz	75 ~ 155mA

■ DISASSEMBLY INSTRUCTIONS

1. How to remove the cabinet

1) Remove the screws (**Fig. 1 : ❶ ~ ❻**) of the cabinet.
2) Hold the cabinet on the right and left sides, then lift it up from the chassis.

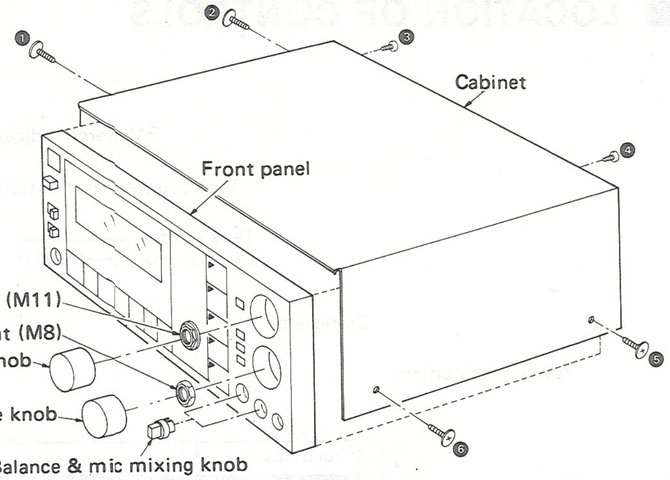


Fig. 1

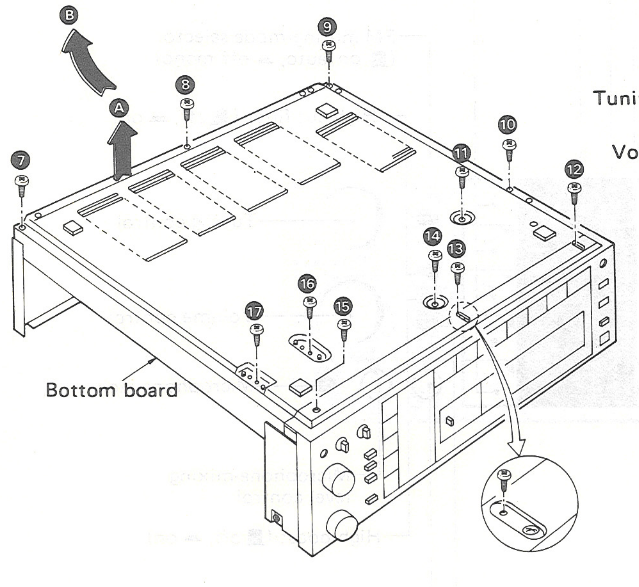


Fig. 2

2. How to remove the bottom board

1) Remove the cabinet. **(Refer to "How to remove the cabinet.")**
2) Remove the 11 red screws (**Fig. 2 : ❼ ~ ⓱**) of the bottom board.
3) Lift up the rear of bottom board in the direction of arrow Ⓐ **(Fig. 2).**
4) Next, pull it in the direction of arrow Ⓑ and remove the bottom board sandwiched between front panel and chassis.

3. How to remove the front panel (With cassette deck mechanism)

1) Remove the cabinet. **(Refer to "How to remove the cabinet.")**
2) Remove the 6 red screws (**Fig. 3** and **4 : ⓬ ~ ⓯ , ⓲** and **⓳**) of the front panel and bottom board.

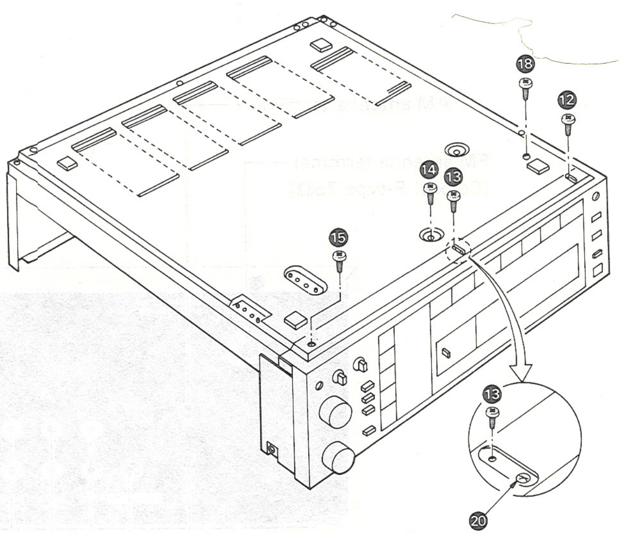
Note: * Loosen the screw ⓴ of **Fig. 3** which is used to secure the cassette.
* Screw ⓳ also fastens the ground lug terminal. Remember to tighten the screw when installing the front panel.

3) Remove the tuning and volume knobs, and then remove the nuts. **(Refer to Fig. 1)**
4) Remove the balance and mic mixing knobs.

Note: * Remove the balance and mic mixing knobs as shown in **Fig. 5**.

5) Pull out the lead wire connectors mentioned in Table 1, and remove the front panel from the chassis.

Note: * When fitting the lead wire connectors, refer to the "printed circuit board wiring connection diagram" on page 17 .



Cassette screw

Fig. 3

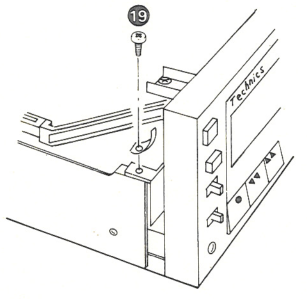
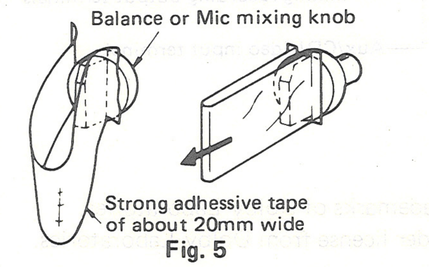


Fig. 4


Balance or Mic mixing knob
Strong adhesive tape of about 20mm wide

① Stick the adhesive tape to the knob.
② Pull the tape to remove the knob from the chassis.

Fig. 5

	Lead wire connectors to be pulled out when removing front panel		
Main circuit side	J104 : 6 pin connector J110 : 3 pin connector J114 : 4 pin connector	J107 : 6 pin connector J111 : 3 pin connector J115 : 8 pin connector	J108 : 3 pin connector J113 : 5 pin connector J702 : 2 pin connector
Front panel side	J105 : 3 pin connector J117 : 4 pin connector	C–A (Cassette motor) : 9 pin connector	

Table 1

4. How to remove cassette deck mechanism

1. Remove the front panel. **(Refer to "How to remove the front panel.")**
2. Remove the 4 eed screws **(Fig. 3 and 6 : ⑳ ~ ㉓)** of the front panel.
3. Remove the screw **(Fig. 6 : ㉔)** of the front panel.
4. Depress "Eject" button to keep the cassette holder open.
5. Remove the cassette mechanism from the front panel.

Note: *When installing the cassette deck mechanism on the front panel, set the cassette holder open/close spring to the bracket on the left side of cassette deck mechanism as in **Fig. 7**.

*Screw ㉓ is used to fit the ground lug terminal. When installing the cassette deck mechanism on the front panel, remember to fit the ground lug terminal.

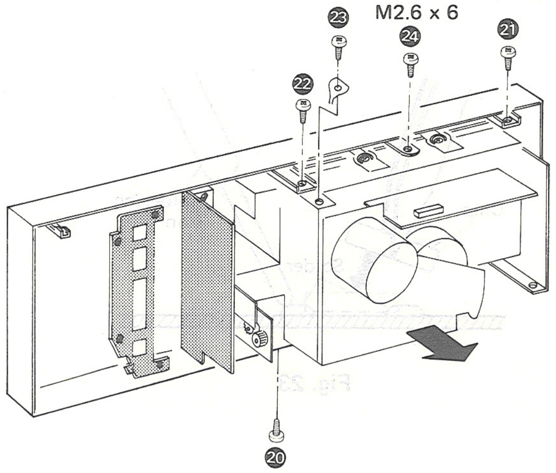

㉓
M2.6 x 6
㉔
㉑
㉒
⑳

Fig. 6

5. How to remove the cassette holder panel

1. Depress "Eject" button to open the cassette holder.
2. Insert a small blade screwdriver between cassette holder and cassette holder panel, then remove the panel by force. **(See Fig. 8 and 9)**

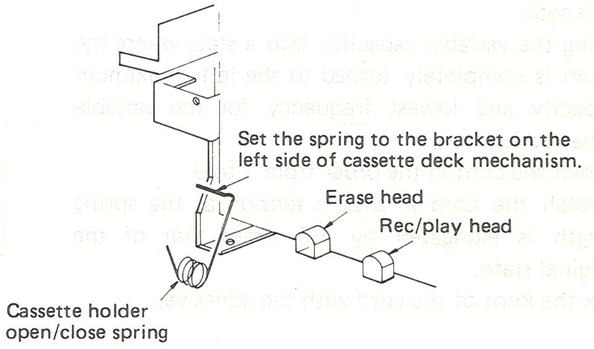

Set the spring to the bracket on the left side of cassette deck mechanism.
Erase head
Rec/play head
Cassette holder open/close spring

Fig. 7

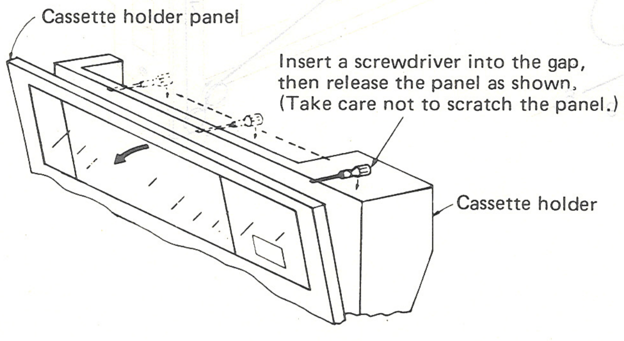

Cassette holder panel
Insert a screwdriver into the gap, then release the panel as shown. (Take care not to scratch the panel.)
Cassette holder

Fig. 8

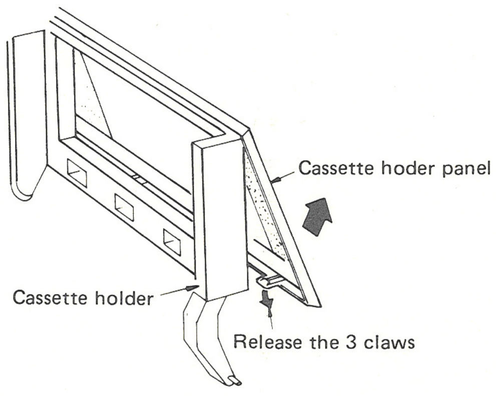

Cassette hoder panel
Cassette holder
Release the 3 claws

Fig. 9

6. How to remove the cassette holder

1. Remove the front panel. **(Refer to "How remove the front panel.")**
2. Remove the cassette deck mechanism. **(Refer to "How to remove the cassette deck mechanism.")**
3. Insert a small blade screwdriver between cassette holder and bracket, then remove the holder from the bracket. **(See Fig. 10)**.
4. Slightly shift the cassette holder to the left and open the holder sufficiently, then remove it toward the front of front chassis. **(See Fig. 11)**

Note: When fitting cassette holder to front panel, set the cassette holder open/close spring to the bracket on the left side of cassette deck mechanism as in **Fig. 7**.

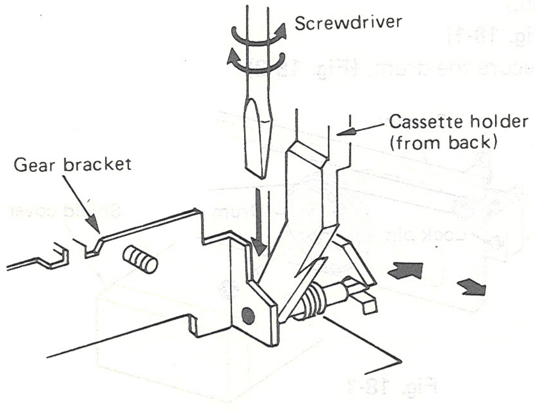

Screwdriver
Cassette holder (from back)
Gear bracket

Fig. 10

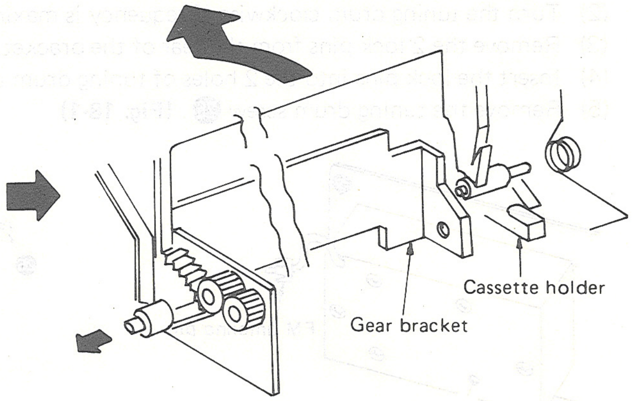

Cassette holder
Gear bracket

Fig. 11

7. How to remove the cassette buttons

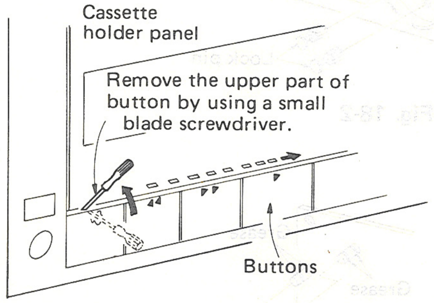

Cassette holder panel
Remove the upper part of button by using a small blade screwdriver.
Buttons

Fig. 12

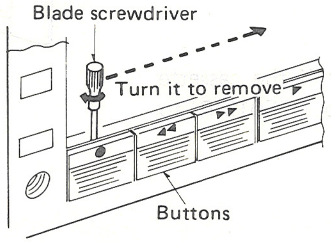

Blade screwdriver
Turn it to remove
Buttons

Fig. 13

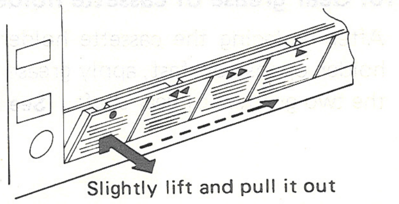

Slightly lift and pull it out

Fig. 14

1. Remove the cassette holder panel. **(Refer to "How to remove the cassette holder panel.")**
2. Insert a small blade screwdriver into the gap at the button, then release the upper parts of buttons from "rec" to "rec mute" in order as in **Fig. 12** or **13**.
3. Slightly lift the button section and remove it from the front panel. **(See Fig. 14, 15)**

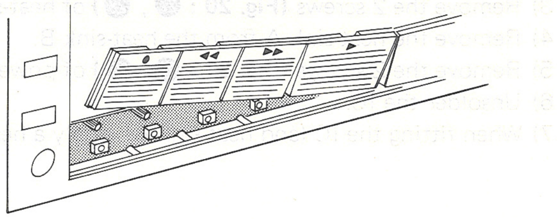


Fig. 15

8. How to replace the head

1. Remove the front panel and cassett deck mechanism. **(Refer to "How to remove the front panel" and "How to remove cassette deck mechanism.")**
2. Remove the head screw and replace the head. **(See Fig. 16)**

Note: *After replacing the head, adjust the cassette deck according to "Measurement and adjustment" on page 14.

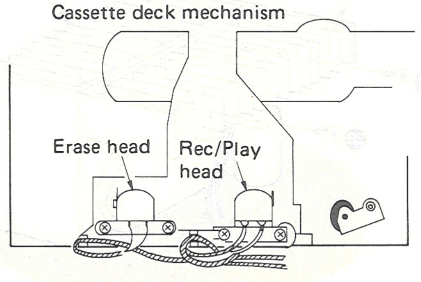

Cassette deck mechanism
Erase head
Rec/Play head

Fig. 16

9. How to remove the tuner circuit Ass'y.

1) Remove the cabinet and front panel. **(Refer to "How to remove the cabinet" and "How to remove the front panel.")**
2) Remove the screw ㉕ which secures the tuner circuit Ass'y on the rear panel. **(Fig. 18-1)**
3) Remove the screw ㉛ of the shield cover. **(Fig. 17)**
4) Remove the FM antenna pin on the rear panel. **(Fig. 17)**
5) Remove the tuner circuit Ass'y from main P.C.B.

Note: When removing P.C.B. from tuner circuit Ass'y fasten the dial drum to the chassis bracket as follows:

(1) Remove the shield cover. **(Fig. 18-1)**
(2) Turn the tuning drum clockwise (Frequency is maximum.)
(3) Remove the 2 lock pins from the rear of the bracket. **(Fig. 18-1)**
(4) Insert the lock pins into the 2 holes of tuning drum to secure the drum. **(Fig. 18-2)**
(5) Remove the tuning drum screw ㉖. **(Fig. 18-1)**

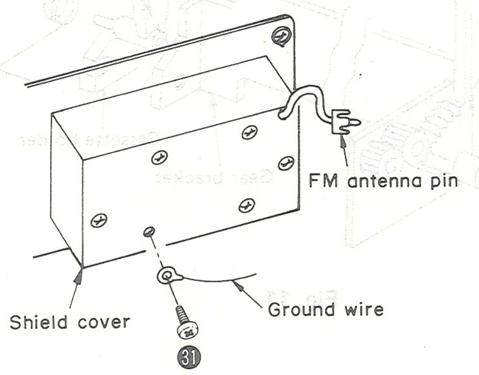

FM antenna pin
Shield cover
Ground wire
㉛

Fig. 17

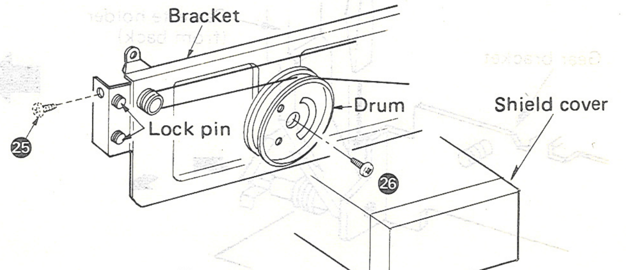

Bracket
Lock pin
Drum
Shield cover
㉕
㉖

Fig. 18-1

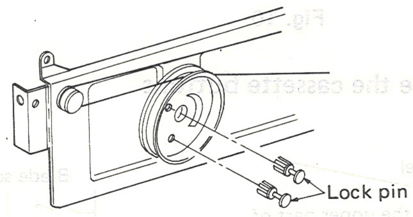


Fig. 18-2

10. Gear grease of cassette holder

After replacing the cassette holder gear or if the cassette holder opens too fast, apply grease (part No. GP501MR) to the two grooves of gear shaft. **(See Fig. 19)**

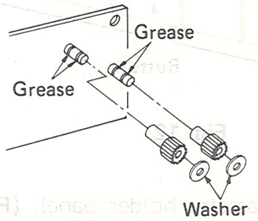

Grease
Grease
Washer

Fig. 19

11. How to remove the power amplifier IC

1) Remove the cabinet. **(Refer to "How to remove the cabinet".)**
2) Remove the bottom board. **(Refer to "How to remove the bottom board.)**
3) Remove the 2 screws **(Fig. 20 : ㉗ , ㉘)** of heat-sink A.
4) Remove the heat-sink A from the heat-sink B.
5) Remove the 2 screws **(Fig. 21 : ㉙ , ㉚)** of power amplifier IC.
6) Unsolder the IC.
7) When fitting the IC (and heat-sink A), apply a heat diffusing agent to the back of IC (and heat-sink A).

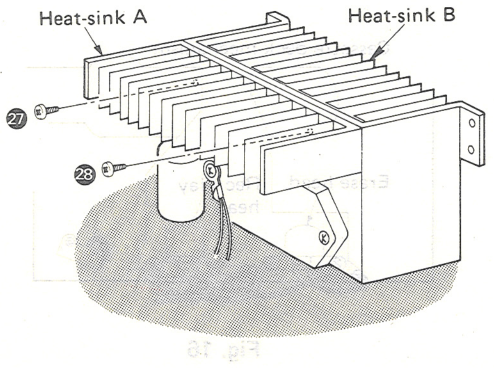

Heat-sink A
Heat-sink B
㉗
㉘

Fig. 20

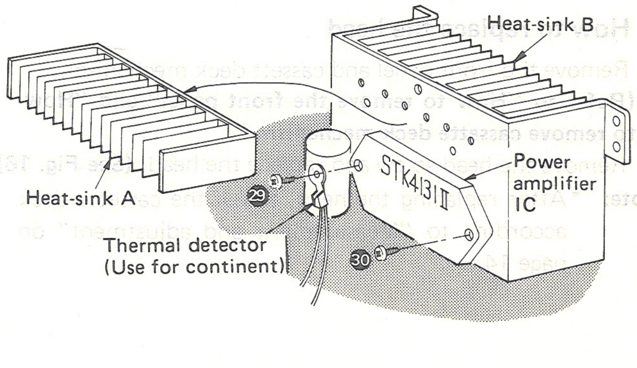

Heat-sink B
Heat-sink A
Power amplifier IC
STK4131Ⅱ
Thermal detector (Use for continent)
㉙
㉚

Fig. 21

- **How to replace chips (resistor and jumper)**

1. Unsolder from chip by using solder sucker.
2. Remove chip with tweezers by rotating it while removing solder as shown in **Fig. 22.**
3. Solder circuit board first and then solder chip in the direction of the arrow as shown in **Fig. 23.**

Notes:

1. Do not use chip again which is removed from printed circuit board.
2. Use lead wire with insulator for replacement instead of chip jumper.

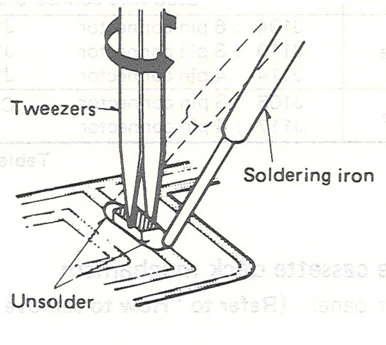

Tweezers
Soldering iron
Unsolder

Fig. 22

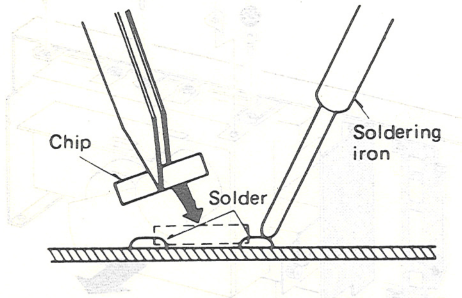

Chip
Soldering iron
Solder

Fig. 23

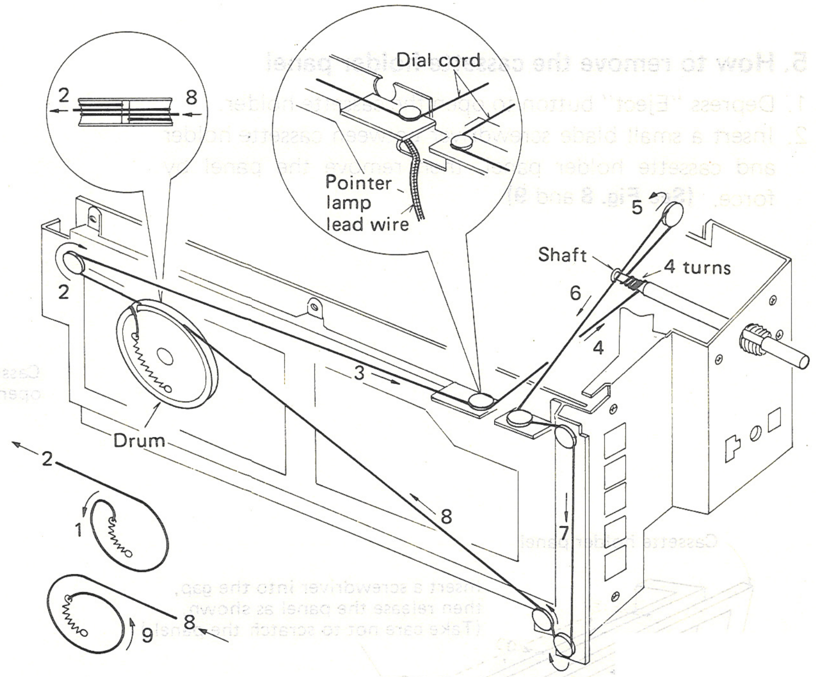
- **Note for replacing chips**

1. Do not heat chips more than three (3) seconds.
2. Be careful not to damage the electrode of chips.
3. Use soldering iron (less than 60W) and tweezers for replacing chips.

■ DIAL CORD INSTALLATION GUIDE

For threading a fresh cord, proceed as follows.

1. Prepare a fresh cord more than 130cm (51-2/3") in length.
2. Bring the variable capacitor into a state where the drum is completely turned to the left (maximum capacity and lowest frequency for the variable capacitor).
3. Direct the cord in the order from 1 to 9.
4. Stretch the cord in such a tension as the spring length is elongated by 1.5 times that of the original state.
5. Fix the knot of the cord with the adhesive.


Dial cord
2
8
Pointer lamp lead wire
Shaft
4 turns
5
6
4
2
3
Drum
1
7
8
2
9
8

■ MESSUNGEN UND JUSTIERUNGEN

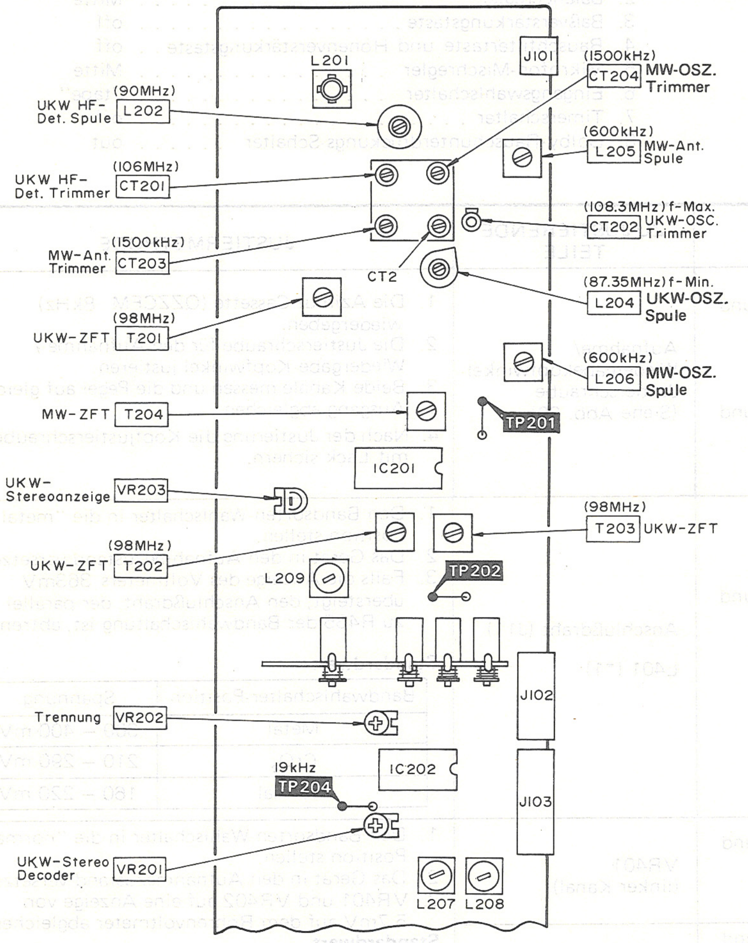
VERSTÄRKERTEIL

Es müssen keine Teile justiert werden.

UKW/MW-TUNER

(Anmerkung)

- Für die Demontage und Montage des Tuner-Blocks, siehe "Entfernen des Tuner-Schaltungsbauteils" auf Seite 9. Die demontierte Schaltungsplatte sorgfältig reparieren und darauf achten, daß kein Kurzschluß verursacht wird.
- Die Frequenz- und Anzeigeskala kann mit L204 (UKW) und L206 (MW) justiert werden. Wenn es nötig ist, die Position des Drehkondensators zu kennen, ohne dazu die Schaltungsplatte zu montieren, kann der Drehkondensator provisorisch auf der Trommel befestigt, die Frequenz mit dem Zeiger justiert und anschließend der Drehkondensator wieder entfernt werden.
- Beim Abgleichen der HF ist zuerst die Spule abzugleichen (Abgleich der niedrigen Frequenz), und dann allmählich der lose Trimmer anzuziehen, um den Abgleich der HF vorzunehmen. Für den Abgleich der Oszillationsspule und des ZFT ist ein nichtmetallischer Schraubenzieher zu verwenden.


L201
J101
(1500kHz)
CT204 MW-OSZ. Trimmer
(90MHz)
UKW HF-Det. Spule L202
(600kHz)
L205 MW-Ant. Spule
(106MHz)
UKW HF-Det. Trimmer CT201
(108.3MHz) f-Max.
CT202 UKW-OSC. Trimmer
(1500kHz)
MW-Ant. Trimmer CT203
CT2
(87.35MHz) f-Min.
L204 UKW-OSZ. Spule
(98MHz)
UKW-ZFT T201
(600kHz)
L206 MW-OSZ. Spule
MW-ZFT T204
TP201
IC201
UKW-Stereoanzeige VR203
(98MHz)
T203 UKW-ZFT
(98MHz)
UKW-ZFT T202
L209
TP202
J102
Trennung VR202
19kHz
TP204
IC202
J103
UKW-Stereo Decoder VR201
L207
L208

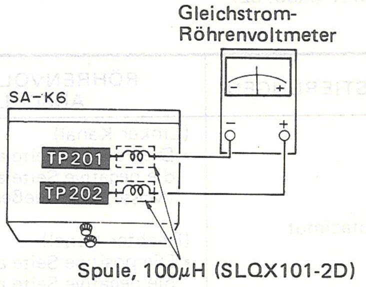

Gleichstrom-Röhrenvoltmeter
SA-K6
TP201
TP202
Spule, 100μH (SLQX101-2D)

Abb. 25

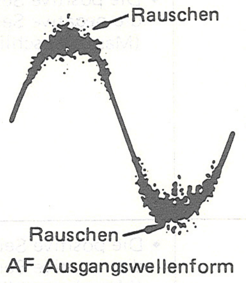


Abb. 26

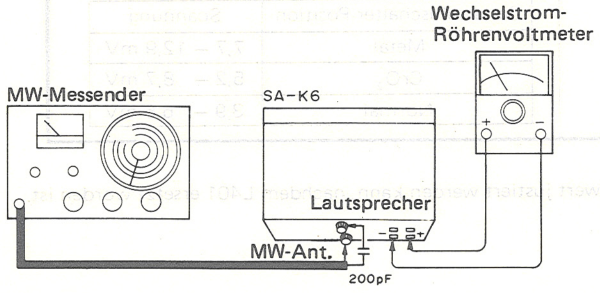

Wechselstrom-Röhrenvoltmeter
MW-Messender
SA-K6
Lautsprecher
MW-Ant.
200pF

Abb. 24

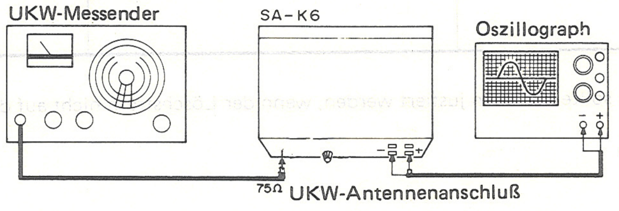

UKW-Messender
SA-K6
Oszillograph
75Ω UKW-Antennenanschluß

Abb. 27

AM (MW)-EINSTELLUNG

* **Stellungen und zu benutzende Geräte**

1. Elektronisches Voltmeter für Wechselstrom (VTVM).
2. AM (MW)-Meßsender (AM-MO).
3. Bereichsschalter . . . . AM
4. Netzspannung auf ihrem Sollwert halten.
5. Der Ausgang des Meßsenders darf nicht höher sein als unbedingt notwendig für eine gute Ablesung.
6. Einen nichtmetallischen Schraubenzieher für die Einstellungen verwenden.

Nr.	AM (MW)-MESSENDER		ANZEIGE-FREQUENZ DURCH VOR-EINSTELLUNG	VORBEREITUNG	ABGLEICHS-PUNKTE	ABGLEICHSVERFAHREN
	ANSCHLUSS	FREQUENZ				
	AM (MW)-ZF-ABGLEICH					
1	MW-MO über 200 pF-Kondensator an den AM-Antennenanschluß anschließen, wie in Abb. 24 gezeigt. (Starker Eingang)	450 kHz (400 Hz Modulat., 30%)	Kein Empfang	Wechselstrom-Voltmeter oder Oszillograph über den Ausgang "Speaker" anschließen.	T204 (1. IFT)	Die Eingangsfrequenz und die Einstellungspunkte so justieren, daß der Ausgang den maximalen Wert erreicht.
	AM (MW)-HF-ABGLEICH					
2	MW-MO über 200 pF-Kondensator an den AM-Antennenanschluß anschließen, wie in Abb. 24 gezeigt. (Schwacher Eingang)	600 kHz (400 Hz Modulat., 30%)	600 kHz	Wechselstrom-Voltmeter oder Oszillograph über den Ausgang "Speaker" anschließen.	L206 (Osc. Spule) L205 (Ant. Spule)	1. Auf max. Ausgang abgleichen.
3		1500 kHz (400 Hz Modulat., 30%)	1500 kHz		CT204 (Osc. Trimmer) CT203 (Ant. Trimmer)	1. Auf max. Ausgang abgleichen. 2. Schritt (2) und (3) sind zu wiederholen.

FM (UKW)-EINSTELLUNG

* **Stellungen und zu benutzende Geräte**

1. UKW-Meßsender (FM-MO)
2. Klirrfaktor-Meßbrücke.
3. Oszillograph.
4. Elektronische Voltmeter für Wechsel-und Gleichstrom (VTVM).
5. Signalfrequenzmesser (geeignet für 19 kHz und 108 MHz)
6. Stereo-Modulator (oder Trennmesser)
7. Bereichsschalter . . . . . . FM
8. Den UKW-Betriebsartenschalter in die "mono"-Position stellen.
9. Die anderen Einstellungen sind gleich wie bei der MW-Justierung.

* **Vorbereitung des UKW-Meßoszillators (UKW-MO)**

Die Normal-Eingangsleistung dieses Gerätes beträgt 60 dB (1 mV), 400 Hz, 100% Modulation. (Wegen der Dämpfung bei Verwendung von Koaxialkabeln, muß die MO-Ausgangsleistung 6 dB oder mehr betragen: d.h. wenn die Eingangsleistung 60 dB beträgt, muß der MO-Ausgang 66 dB betragen.

Nr.	FM (UKW)-MESSENDER		ANZEIGE-FREQUENZ DURCH VOR-EINSTELLUNG	VORBEREITUNG	ABGLEICHS-PUNKTE	ABGLEICHSVERFAHREN
	ANSCHLUSS	FREQUENZ				
	UKW-ZF-ABGLEICH					
4	———	Kein Signal	Kein Empfang	Ein Gleichstromröhren-Voltmeter zwischen TP201 und TP202 über eine Drosselspule verbinden (siehe Abb. 25)	T202 (Diskriminator FT)	● FM muting/FM mode-Schalter, auf "off/mono" stellen. ● Den Kern von T202 so justieren, daß die gemessene Spannung im signallosen Zustand 0mV im 300mV Bereich beträgt.
	UKW-HF-ABGLEICH					
5	UKW-MO an UKW-Antennen, anschließen. (Schwacher Eingang) (Abb. 27)	87,35 MHz (400 Hz Modulat., 100%)	87,35 MHz (Frequenz min.)	Oszillograph über den Ausgang "Speaker" anschließen.	L204 (Osc. Spule)	1. Einen schwachen Eingang anlegen, bei dem Geräusch in der Ausgangswellenform enthalten wird. 2. So einstellen, daß die Ausgangswellenform vertikal symmetrisch wird. (Abb. 26) 3. Die Einstellung von (5), (6), (7) und (8) wiederholen, bis die Frequenz mit der Skala übereinstimmt.
6		108,3 MHz (")	108,3 MHz (Frequenz max.)		CT202 (Osc. Trimmer) L202 (Det. Spule)	
7		90 MHz (")	90 MHz			
8		106 MHz (")	106 MHz		CT201 (Det. Trimmer)	

Nr.	UKW MESSENDER		SKALENZEIGEREINSTELLUNG DES TUNERS	ANZEIGEGERÄT (Röhrenvoltmeter order Oszillograph)	ABGLEICH PUNKTE	BEMERKUNGEN
	ANSCHLUSS	FREQUENZ				
	ABGLEICH AUF MIN. VERZERRUNG INSTELLUNG UKW-MONO					
9	UKW-MO an UKW-Antennen anschließen, wie in Abb. 27 gezeigt. (60 dB in den Antenneneingang anlegen.)	98 MHz (400 Hz Modulat. 100%	98 MHz	Ein Gleichstrom-Voltmeter zwischen **TP201** und **TP202** über eine Drosseispule anschließen.	T202 (Diskriminator FT)	Den Kern von T202 so justieren, daß die gemessene Spannung im signallosen Zustand 0 mV im 300 mV Bereich beträgt.
10				Klirrfaktor-Meßbrücke an Ausgang "Speaker" anschließen.	T203 (Diskriminator FT)	Kern von T203 für minimale Verzerrung der rechten und linken Kanäle justieren.

UKW-STEREO-DEKODER-ABGLEICH

UNTER VERWENDUNG EINES ZÄHLERS	ALTERNATIV-MESSMETHODE
1. Unmoduliertes Mono-Signal von 98 MHz in das Gerät speisen. (Vgl. Abb. 28) 2. FM Mode-Schalter auf "FM auto" stellen. 3. Zähler über einen Widerstand von 100k Ohm an **TP204** anschließen. 4. **VR201** auf 19 kHz±30 Hz einstellen.	1. Stereosignal entweder von einem Stereogenerator, oder einem Sender einspeisen. 2. **VR201** so einstellen, bis die Stereolampe aufleuchtet. Schleifer von **V201** sichern, wie in Abb. 29 gezeigt.

Nr.	ANSCHLUSS	FREQUENZ	SKALENZEIGEREINSTELLUNG DES TUNERS	ANZEIGEGERÄT	ABGLEICH PUNKTE	BEMERKUNGEN
	STEREOVERZERRUNGS-ABGLEICH					
11	UKW-MO an den UKW-Antennenanschluß anschließen. (60 dB an den Antennenanschluß anlegen.) (Pilot 10% Mod. Stereo-Signal)	98 MHz (100% Mod. mit 400 Hz) (L-oder R-Betrieb)	98 MHz	Verzerrungs-Analysator durch Tiefpassfilter an "Speaker"-Anschlüsse des Gerätes anschließen. (fc = 15kHz~19kHz)	T201 (ZFT)	Den Kern von T201 so abgleichen, daß die Verzerrung des rechten Kanals minimal ist.
	TRENNUNGS-ABGLEICH					
12	UKW-MO an den UKW-Antennenanschluß anschließen. (60 dB an den Antennenanschluß anlegen.) (Pilot 10% Mod. Stereo-Signal)	98 MHz (1 kHz Modulat., 100%) (L-oder R-Betrieb)	98 MHz	Wechselstrom-Röhrenvoltmeter durch Tiefpassfilter an die "Speaker"-Anschlüsse des Gerätes anschließen. (fc = 15kHz~19kHz)	VR202	1. VR202 so justieren daß der R-Ausgang minimal wird, wenn der Stereo-Modulator im L-Zustand (L-Kanal-Modulation) ist. 2. VR202 so justieren, daß der L-Ausgang minimal wird, wenn der Stereo-Modulator im R-Zustand (R-Kanal-Modulation) ist.
	JUSTIERUNG DES UKW-STEREOANZEIGE-EIN-SIGNALEINGANGSPEGELS					
13	UKW-MO an den UKW-Antennenanschluß anschließen. (60 dB an den Antennenanschluß anlegen.) (Pilot 10% Mod. Stereo-Signal)	98 MHz (1 kHz Modulat., 100%) (L-oder R-Betrieb)	98 MHz	UKW-Stereoanzeige	VR203	Ein 12 dB-Signal an den UKW-Antennenanschluß anlegen und VR203 so justieren, daß die Anzeige aufleuchtet.

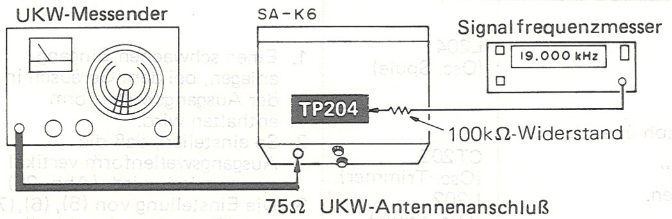
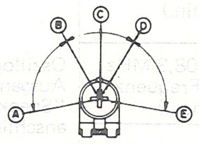


Abb. 28



Ⓐ–Ⓑ, Ⓓ–Ⓔ : Stereo AUS Position
Ⓑ–Ⓓ : Stereo EIN Position (Anzeige leuchtet)
Ⓒ : Punkt der Pilot-Schaltung justieren

Abb. 29

JUSTIERUNG DES CASSETTENDECKS

Anmerkung:

1. Falls der Kopf einem Leitungstest mit einem Prüfgerät unterzogen wird, so wird er dadurch magnetisch aufgeladen. Es ist daher nötig, den Kopf nach dem Leitungstest zu entmagnetisieren.
2. Nach dem Ersetzen des Aufnahme/Wiedergabe-Kopfes müssen die folgenden Justierungen durchgeführt werden.
3. Beim Justieren des Kopfazimuts sind die Cassettenknöpfe (siehe "Entfernen der Cassettenknöpfe" auf Seite 8) zu entfernen, und dann ist ein Schraubenzieher in die Vertiefungen der Schalter-Schaltungsplatte zu stecken, um die Schraube zu entfernen.
4. Um den Aufnahmezustand zu wählen ist die Auswurftaste zu drücken, um die Cassettenhalterung zu öffnen, und während der Aufnahmeverhinderungs-Schalter (S412) gedrückt gehalten wird, ist die Aufnahmetaste und anschließend die Wiedergabetaste zu drücken. (Oder es ist eine vollkommen neue Cassette zu benutzen.)

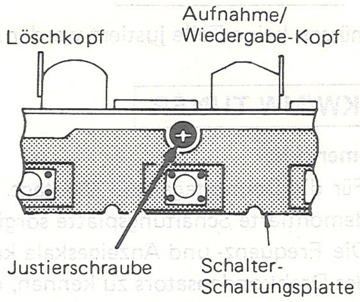


Abb. 30

*** Zu verwendende Instrumente**

1. Elektronisches Wechselstrom-Voltmeter (Röhrenvoltmeter)
2. Frequenzzähler
3. AF-Oszillator

***Testband**

QZZCFM (Abb. 31)
QZZCWAT (Abb. 32)

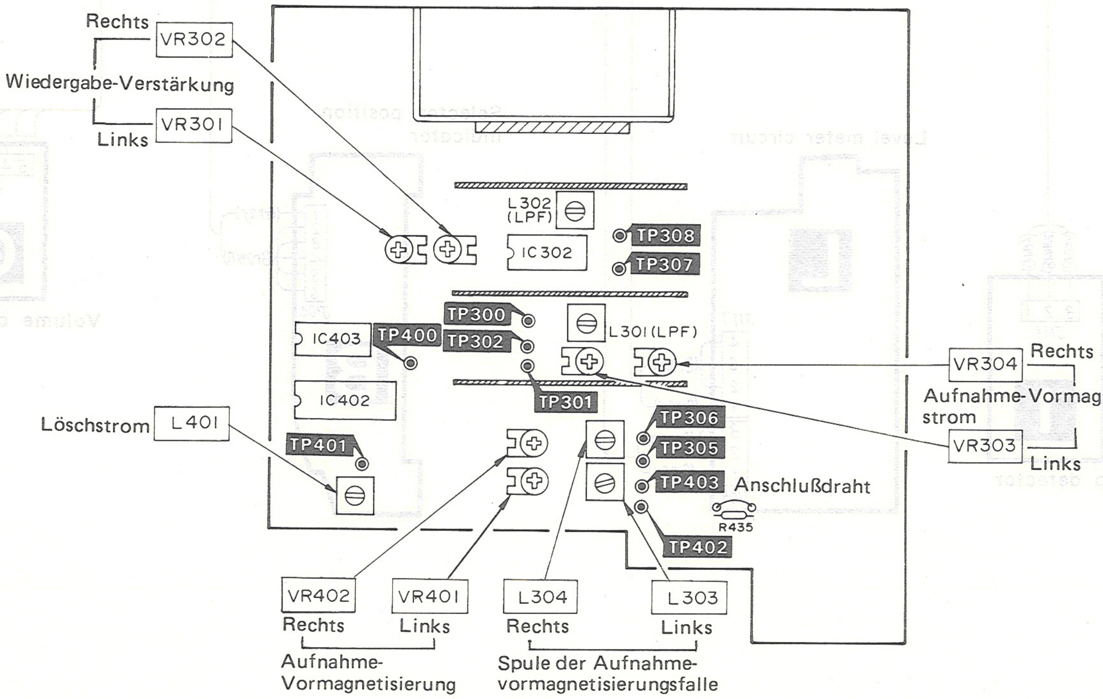
***Einstellungen**

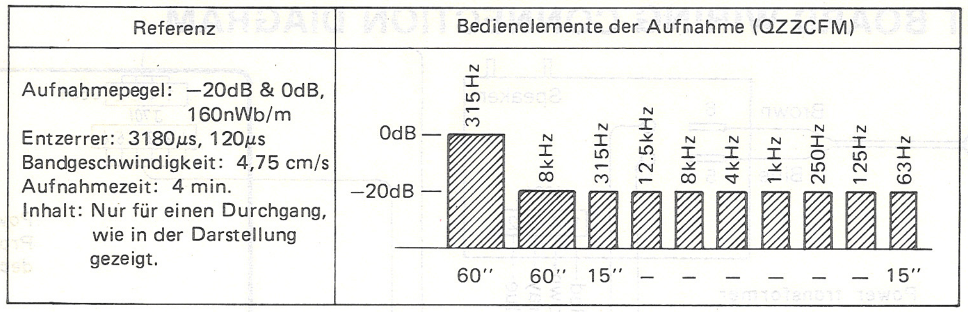
1. Lautstärkeregler . . . . 0 (Minimum)
2. Balanceregler . . . . Mitte
3. Baßverstärkungstaste . . . . off
4. Rauschfiltertaste und Höhenverstärkungstaste . . off
5. Mikrofon-Mischregler . . . . Mitte
6. Eingangswahlschalter . . . . "tape"
7. Timerschalter . . . . off
8. Dolby-Rauschunterdrückungs-Schalter . . . . . . out

<table>
<tr><th>Nr.</th><th>JUSTIERUNGEN</th><th>RÖHRENVOLTMETER-ANSCHLUSS</th><th>ZU JUSTIERENDE TEILE</th><th>JUSTIERMETHODE</th></tr>
<tr><td>1</td><td>Kopfazimut</td><td>(Linker Kanal)
• Die Positive Seite an TP307 und die negative Seite an TP300 (Masse) anschließen.
(Rechter Kanel)
• Die positive Seite an TP308 und die negative Seite an TP300 (Masse) anschließen.</td><td>Aufnahme/ Wiedergabekopfwinkel-Justierschraube (Siehe Abb. 30)</td><td>1. Die Azimut-Cassette (QZZCFM 8kHz) wiedergeben.
2. Die Justierschraube für den Aufnahme-/ Wiedergabe-Kopfwinkel justieren.
3. Beide Kanäle messen und die Pegel auf gleichen Ausgang abgleichen.
4. Nach der Justierung die Kopfjustierschraube mit Lack sichern.</td></tr>
<tr><td>2</td><td>Löschstrom</td><td>• Die positive Seite an TP401 und die negative Seite an TP400 (Masse) anschließen.</td><td>Anschlußdraht (J11)
L401 (*1)</td><td>1. Den Bandsorten-Wahlschalter in die "metal"-Position stellen.
2. Das Gerät in den Aufnahmezustand versetzen.
3. Falls die Anzeige des Voltmeters 363mV übersteigt, den Anschlußdraht, der parallel zu R435 der Bandwahlschaltung ist, abtrennen.
Standardwert
<table>
<tr><th>Bandwahlschalter-Position</th><th>Spannung</th></tr>
<tr><td>Metal</td><td>300 – 400 mV</td></tr>
<tr><td>CrO$_2$</td><td>210 – 290 mV</td></tr>
<tr><td>Normal</td><td>160 – 220 mV</td></tr>
</table></td></tr>
<tr><td rowspan="2">3</td><td rowspan="2">Aufnahme-Vormagnetisierung</td><td>• Die positive Seite an TP301 und die negative Seite an TP300 (Masse) anschließen.</td><td>VR401 (linker Kanal)</td><td rowspan="2">1. Den Bandsorten-Wahlschalter in die "normal"-Position stellen.
2. Das Gerät in den Aufnahmezustand versetzen.
3. VR401 und VR402 auf eine Anzeige von 5,7mV auf dem Röhrenvoltmeter abgleichen.
Standardwert
<table>
<tr><th>Bandwahlschalter-Position</th><th>Spannung</th></tr>
<tr><td>Metal</td><td>7,7 – 12,9 mV</td></tr>
<tr><td>CrO$_2$</td><td>5,2 – 8,7 mV</td></tr>
<tr><td>Normal</td><td>3,9 – 6,6 mV</td></tr>
</table></td></tr>
<tr><td>• Die positive Seite an TP302 und die negative Seite an TP300 (Masse) anschließen.</td><td>VR402 (rechter Kanal)</td></tr>
</table>

(*1) L401 sollte nur dann justiert werden, wenn der Löschstrom nicht auf den Standardwert justiert werden kann, nachdem L401 ersetzt worden ist.

<table>
<tr><th>Nr.</th><th>JUSTIERUNGEN</th><th>RÖHRENVOLTMETER-ANSCHLUSS</th><th>ZU JUSTIERENDE TEILE</th><th>JUSTIERMETHODE</th></tr>
<tr><td>4</td><td>Aufnahme-Vormagnetisierungsstrom
(linker Kanal)</td><td>• Das Wechselstrom-Röhrenvoltmeter der positiven Seite an TP307 und die negative Seite an TP300 (Masse) anschließen.
• Den Oszillator an den "Aux" Eingangsanschluß des Gerätes anschließen.
• Ein 400Hz-Signal anlegen und den Ausgang des AF-Oszillators so abgleichen, daß das Wechselstrom-Röhrenvoltmeter 410mV anzeigt.
• Anschließend das Wechselstrom-Röhrenvoltmeter zwischen TP301 und TP300 anschließen</td><td>VR303
(linker Kanal)</td><td>1. Den Bandsorten-Wahlschalter in die "normal"-Position stellen.
2. Den Eingangswahlschalter in die "aux"-Position stellen.
3. Das Gerät in den Aufnahmezustand versetzen.
4. VR303 so abgleichen, daß das zwischen TP301 und TP300 angeschlossene Wechselstrom-Röhrenvoltmeter 460µV anzeigt. (Vor der Justierung ist die Oszillation durch Kurzschließen zwischen TP402 und TP403 zu unterbrechen.)
Standardwert
<table>
<tr><th>Bandwahlschalter-Position</th><th>Spannung</th></tr>
<tr><td>Metal</td><td>523 – 797 µV</td></tr>
<tr><td>CrO$_2$</td><td>436 – 659 µV</td></tr>
<tr><td>Normal</td><td>368 – 557 µV</td></tr>
</table></td></tr>
<tr><td>5</td><td>Aufnahme-Vormagnetisierungsstrom
(rechter Kanal)</td><td>• Das Wechselstrom-Röhrenvoltmeter mit der positiven Seite an TP308 und mit der negativen Seite an TP300 (Masse) anschließen.
• Den Oszillator an den "Aux"-Eingangsanschluß des Gerätes anschließen.
• Ein 400Hz-Signal anlegen und den Ausgang des AF-Oszillators so abgleichen, daß das Wechselstrom-Röhrenvoltmeter 410mV anzeigt.
• Anschließend das Wechselstrom-Röhrenvoltmeter zwischen TP302 und TP300 anschließen</td><td>VR304
(rechter Kanal)</td><td>1. Den Bandsorten-Wahlschalter in die "normal"-Position stellen.
2. Den Eingangswahlschalter in die "aux"-Position stellen.
3. Das Gerät in den Aufnahmezustand versetzen.
4. VR304 so abgleichen, daß das zwischen TP302 und TP300 angeschlossene Wechstrom-Röhrenvoltmeter 460µV anzeigt. (Vor der Justierung ist die Oszillation durch Kurzschließen zwischen TP402 und TP403 zu unterbrechen.)
Standardwert
<table>
<tr><th>Bandwahlschalter-Position</th><th>Spannung</th></tr>
<tr><td>Metal</td><td>523 – 791 µV</td></tr>
<tr><td>CrO$_2$</td><td>436 – 659 µV</td></tr>
<tr><td>Normal</td><td>368 – 557 µV</td></tr>
</table></td></tr>
<tr><td rowspan="2">6</td><td rowspan="2">Spule der Aufnahmevormagnetisierungsfalle</td><td>• Die positive Seite an TP305 und die negative Seite an TP300 (Masse) anschließen.</td><td>L303
(linker Kanal)</td><td rowspan="2">1. Den Bandsorten-Wahlschalter in die "normal"-Position stellen.
2. Das Gerät in den Aufnahmezustand versetzen.
3. Auf minimale Spannungsanzeige des Wechselstrom-Röhrenvoltmeters abgleichen.
Standardwert
Weniger als 50mV.</td></tr>
<tr><td>• Die positive Seite an TP306 und die negative Seite an TP300 (Masse) anschließen.</td><td>L304
(rechter Kanal)</td></tr>
<tr><td rowspan="2">7</td><td rowspan="2">Wiedergabe-Verstärkung</td><td>• Die positive Seite an TP307 und die negative Seite an TP300 (Masse) anschließen.</td><td>VR301
(linker Kanal)</td><td rowspan="2">1. Den Bandsorten-Wahlschalter in die "normal"-Position stellen.
2. Die Testcassette für den 315Hz (0dB)-Frequenzgang wiedergeben. Anschließend VR301 und VR302 so abgleichen, daß die Ausgangsleistung 410mV beträgt.
Standardwert
387 ~435 mV.</td></tr>
<tr><td>• Die positive Seite an TP308 und die negative Seite an TP300 (Masse) anschließen.</td><td>VR302
(rechter Kanal)</td></tr>
</table>


Rechts
VR302
Wiedergabe-Verstärkung
Links
VR301
L302 (LPF)
IC302
TP308
TP307
TP300
TP302
L301 (LPF)
IC403
TP400
IC402
TP301
VR304
Rechts
Aufnahme-Vormagnetisierungsstrom
VR303
Links
Löschstrom
L401
TP401
TP306
TP305
TP403
Anschlußdraht
R435
TP402
VR402
Rechts
VR401
Links
Aufnahme-Vormagnetisierung
L304
Rechts
L303
Links
Spule der Aufnahmevormagnetisierungsfalle



Referenz

Aufnahmepegel: –20dB & 0dB, 160nWb/m
Entzerrer: 3180µs, 120µs
Bandgeschwindigkeit: 4,75 cm/s
Aufnahmezeit: 4 min.
Inhalt: Nur für einen Durchgang, wie in der Darstellung gezeigt.

Abb. 31

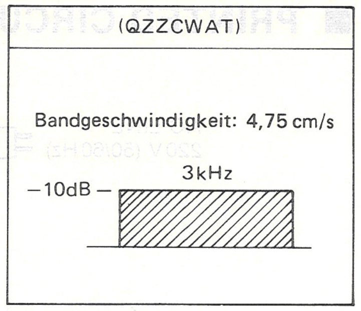


Abb. 32

- **Die Motorgeschwindigkeit ist zu justieren, falls der Motor des Cassettendecks ausgewechselt worden ist.**

1. Für die Gleichlaufschwankungs-Justierung ist die Testcassette abzuspielen. (Abb. 32)
2. Den Frequenzzähler an den Lautsprecheranschluß des Gerätes anschließen.
3. Die Justierschraube hinten am Motor so justieren, daß die Ausgangsfrequenz des Lautsprecheranschlußes 3 kHz beträgt. (Abb. 33)

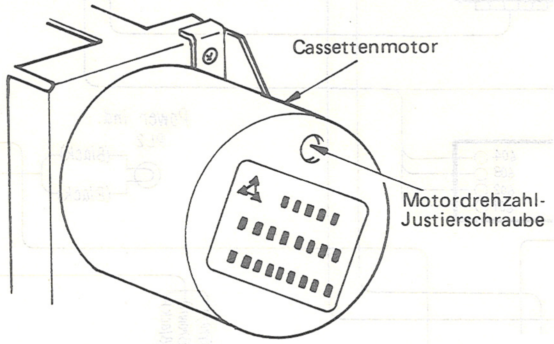
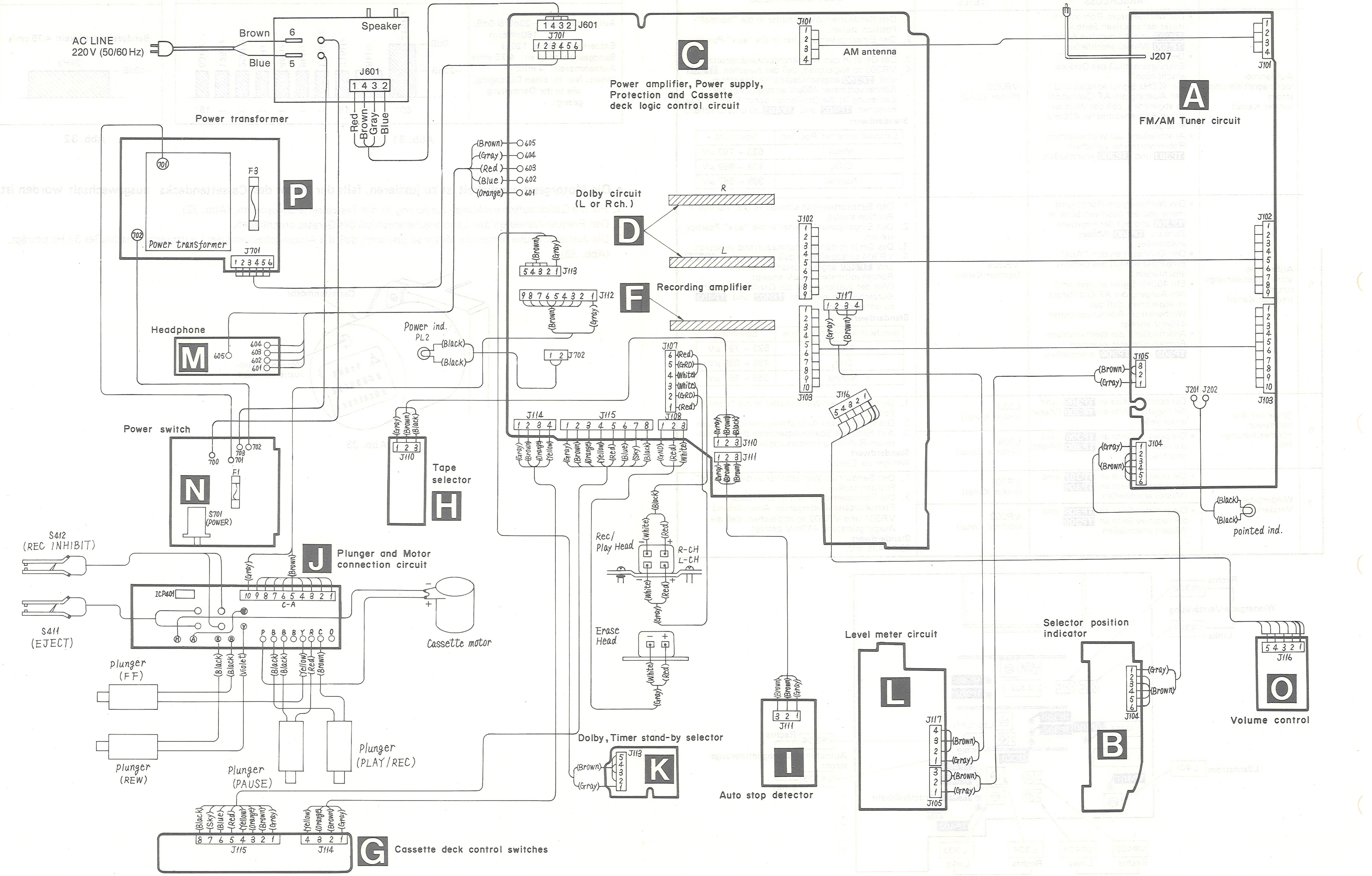

Cassettenmotor
Motordrehzahl-Justierschraube

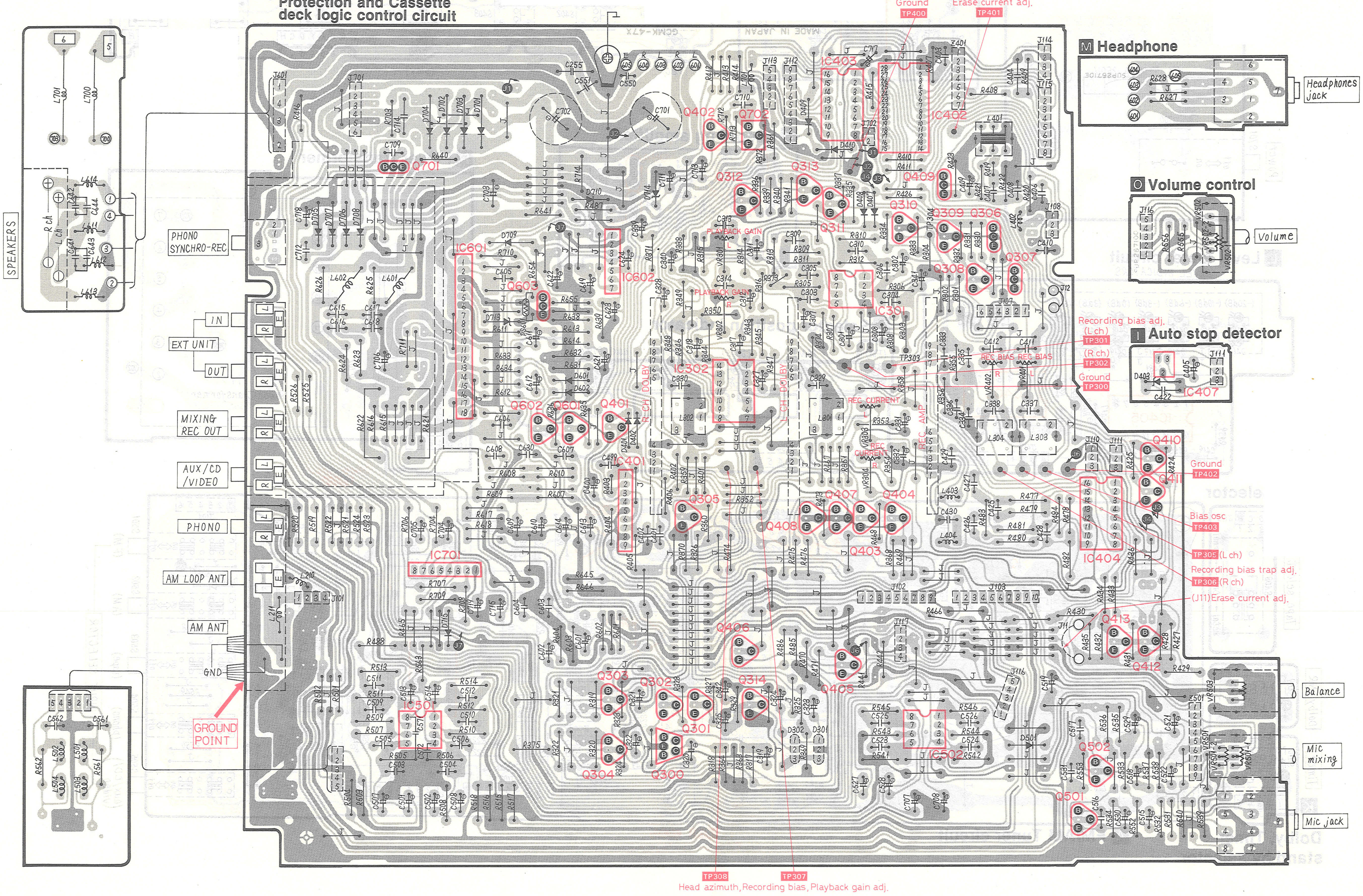
Abb. 33

■ PRINTED CIRCUIT BOARD WIRING CONNECTION DIAGRAM


AC LINE
220 V (50/60 Hz)
Brown
Blue
6
5
Speaker
J601
1 4 3 2
Red
Brown
Gray
Blue
Power transformer
P
F3
Power transformer
J701
1 2 3 4 5 6
701
702
Headphone
M
605
604
603
602
601
Power switch
N
700
701
702
703
F1
S701 (POWER)
S412 (REC INHIBIT)
S411 (EJECT)
J
Plunger and Motor connection circuit
ICP401
C-A
10 9 8 7 6 5 4 3 2 1
P B B B Y R C O
(Gray)
(Brown)
(Black)
(Violet)
(Yellow)
(Red)
Cassette motor
Plunger (FF)
Plunger (REW)
Plunger (PAUSE)
Plunger (PLAY/REC)
C
Power amplifier, Power supply, Protection and Cassette deck logic control circuit
J601
1 4 3 2
J701
1 2 3 4 5 6
(Brown) 605
(Gray) 604
(Red) 603
(Blue) 602
(Orange) 601
D
Dolby circuit (L or Rch.)
R
L
F
Recording amplifier
J113
5 4 3 2 1
J112
9 8 7 6 5 4 3 2 1
Power ind.
PL2
(Black)
J702
1 2
J107
6 (Red)
5 (GRD)
4 (White)
3 (White)
2 (GRD)
1 (Red)
J114
1 2 3 4
J115
1 2 3 4 5 6 7 8
J108
1 2 3
(Gray) (Brown) (Orange) (Yellow)
(Gray) (Brown) (Orange) (Yellow) (Red) (Blue) (Sky) (Black)
(GND) (Red) (White)
J110
J111
J101
1 2 3 4
AM antenna
J102
J103
J117
1 2 3 4
J116
5 4 3 2 1
FM antenna
J207
A
FM/AM Tuner circuit
J101
J102
J103
J105
(Brown)
(Gray)
J201 J202
J104
(Black)
pointed ind.
H
Tape selector
J110
1 2 3
Rec/Play Head
R-CH
L-CH
Erase Head
K
Dolby, Timer stand-by selector
J113
5 4 3 2 1
I
Auto stop detector
J111
3 2 1
L
Level meter circuit
J117
4 3 2 1
J105
3 2 1
B
Selector position indicator
J104
1 2 3 4 5 6
O
Volume control
J116
5 4 3 2 1
G
Cassette deck control switches
J115
8 7 6 5 4 3 2 1
(Black) (Sky) (Blue) (Red) (Yellow) (Orange) (Brown) (Gray)
J114
4 3 2 1
(Yellow) (Orange) (Brown) (Gray)

■ PRINTED CIRCUIT BOARDS

▨ Ground (Earth) Lines



C Power amplifier, Power supply, Protection and Cassette deck logic control circuit

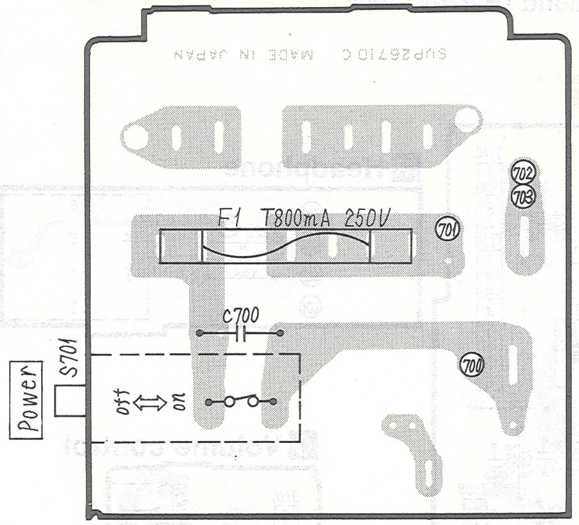
M Headphone

O Volume control

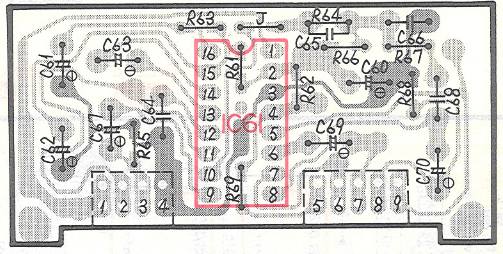
I Auto stop detector

Ground TP400
Erase current adj. TP401
SPEAKERS
R ch
L ch
PHONO SYNCHRO-REC
IN
EXT UNIT
OUT
MIXING REC OUT
AUX/CD /VIDEO
PHONO
AM LOOP ANT
AM ANT
GND
GROUND POINT
IC601
IC602
IC701
IC403
IC402
IC301
IC302
IC404
IC501
IC502
IC407
Q701
Q702
Q402
Q312
Q313
Q409
Q310
Q311
Q309
Q306
Q307
Q308
Q603
Q602
Q601
Q401
D401
Q305
Q407
Q404
Q408
Q403
Q410
Q411
Q406
Q405
Q413
Q412
Q303
Q302
Q314
Q301
Q300
Q304
Q502
Q501
PLAYBACK GAIN
L-CH DOLBY
R-CH DOLBY
REC CURRENT
REC AMP
REC BIAS
Recording bias adj. (L ch) TP301
(R ch) TP302
Ground TP300
Ground TP402
Bias osc TP403
TP305 (L ch)
Recording bias trap adj.
TP306 (R ch)
(J11) Erase current adj.
Headphones jack
Volume
Balance
Mic mixing
Mic jack
TP308
TP307
Head azimuth, Recording bias, Playback gain adj.
GCMK-47X
MADE IN JAPAN

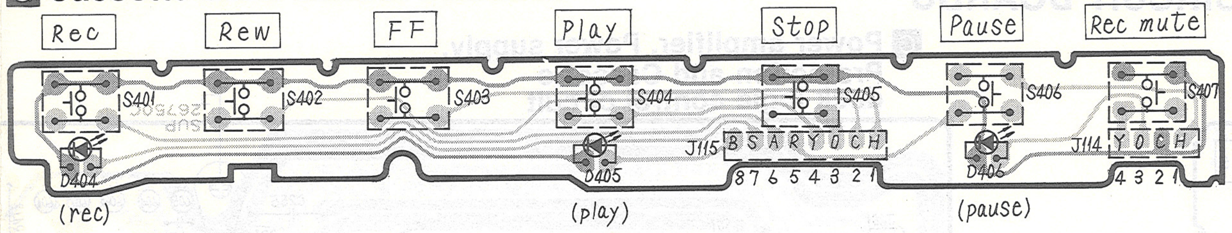
N Power switch


F1 T800mA 250V
C700
S701
Power
off
on
700
701
702
703
SUP26710C MADE IN JAPAN

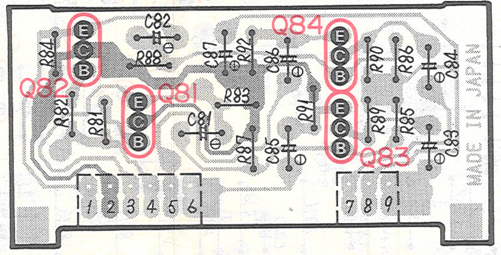
D Dolby circuit (L or R ch.)


IC61
R63
R64
C63
C61
C62
C65
C66
C67
C68
C69
C70
R61
R62
R65
R66
R67
R68
R69
1 2 3 4
5 6 7 8 9

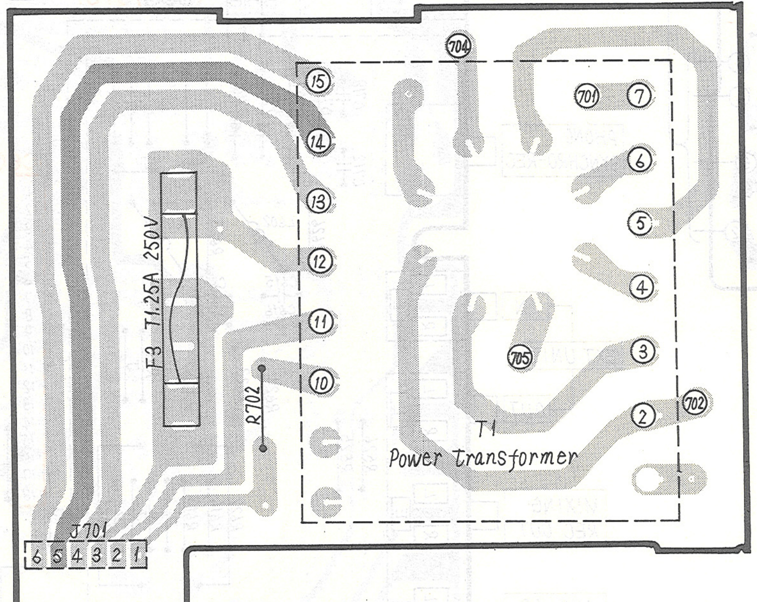
G Cassette deck control switches


Rec
Rew
FF
Play
Stop
Pause
Rec mute
S401
S402
S403
S404
S405
S406
S407
D404
D405
D406
J115
J114
B S A R Y O C H
8 7 6 5 4 3 2 1
Y O C H
4 3 2 1
(rec)
(play)
(pause)

F Recording amplifier

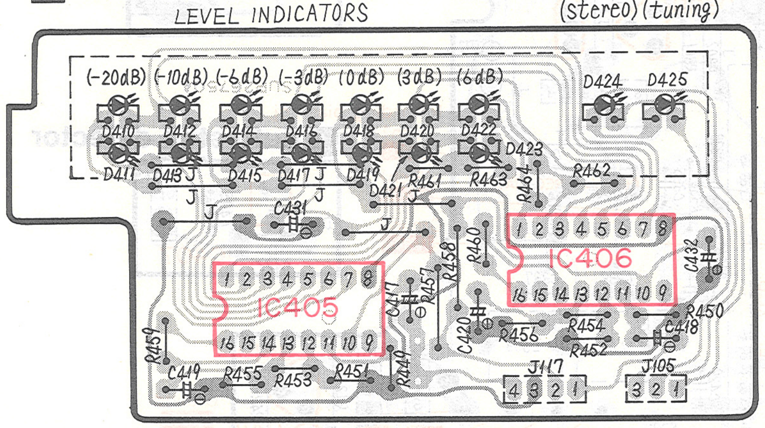

Q81
Q82
Q83
Q84
E
C
B
C82
C81
C83
C84
C85
C86
C87
C88
C89
R81
R82
R83
R84
R85
R86
R87
R88
R89
R90
R91
R92
1 2 3 4 5 6
7 8 9
MADE IN JAPAN

P Power transformer

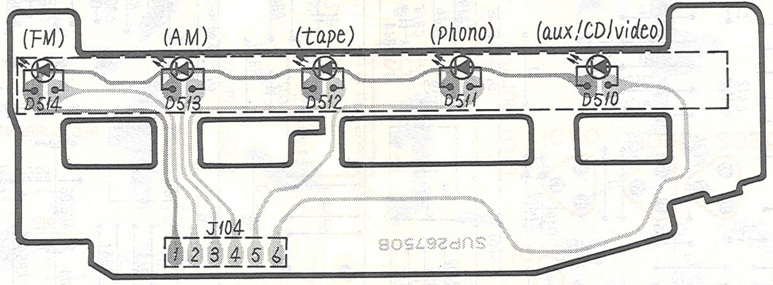

F3 T1.25A 250V
R702
T1
Power transformer
J701
6 5 4 3 2 1
701
702
704
705
2
3
4
5
6
7
10
11
12
13
14
15

L Level meter circuit

LEVEL INDICATORS

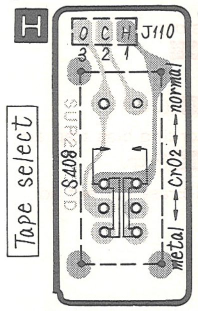

(stereo)
(tuning)
(-20dB)
(-10dB)
(-6dB)
(-3dB)
(0dB)
(3dB)
(6dB)
D410
D411
D412
D413
D414
D415
D416
D417
D418
D419
D420
D421
D422
D423
D424
D425
IC405
IC406
R450
R451
R452
R453
R454
R455
R456
R457
R458
R459
R460
R461
R462
R463
R464
C418
C419
C420
C431
C432
J117
4 3 2 1
J105
3 2 1

B Selector position indicator

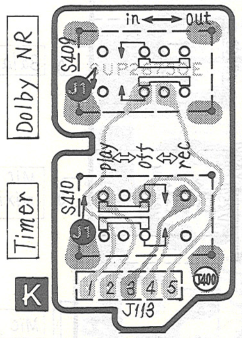

(FM)
(AM)
(tape)
(phono)
(aux/CD/video)
D514
D513
D512
D511
D510
J104
1 2 3 4 5 6
SUP26750B

Tape selector

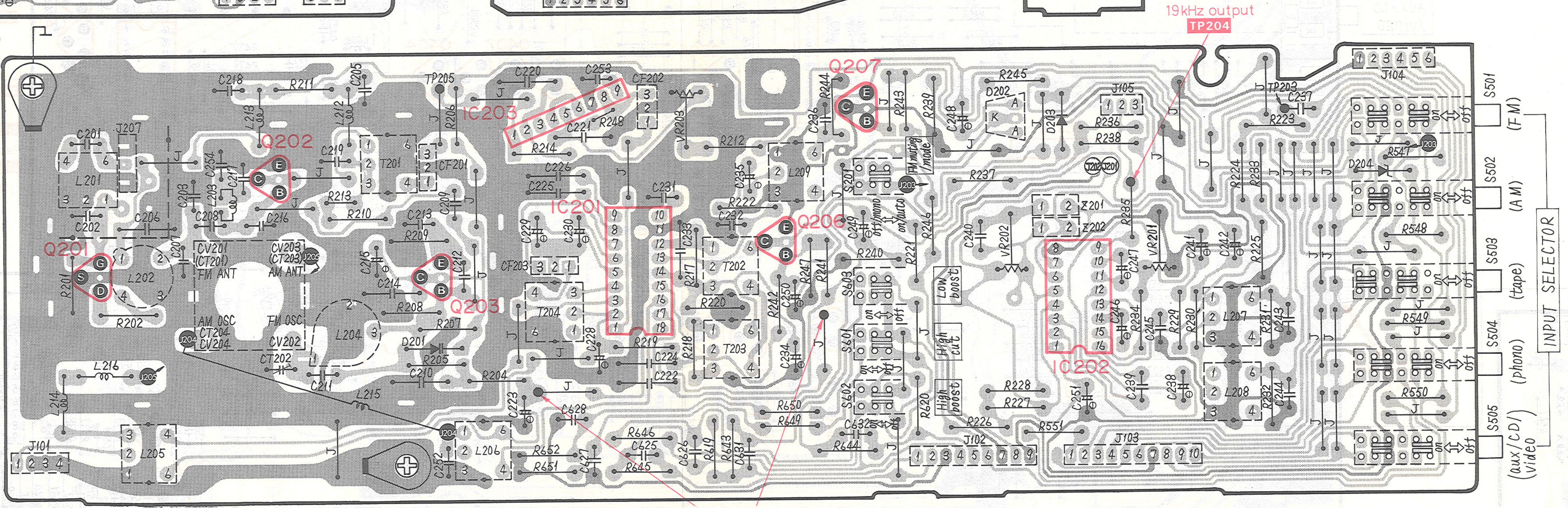
H


J110
O C H
3 2 1
S408
Tape select
CrO2
normal
metal

K


Dolby NR
S409
in
out
Timer
S410
play
off
rec
J113
1 2 3 4 5

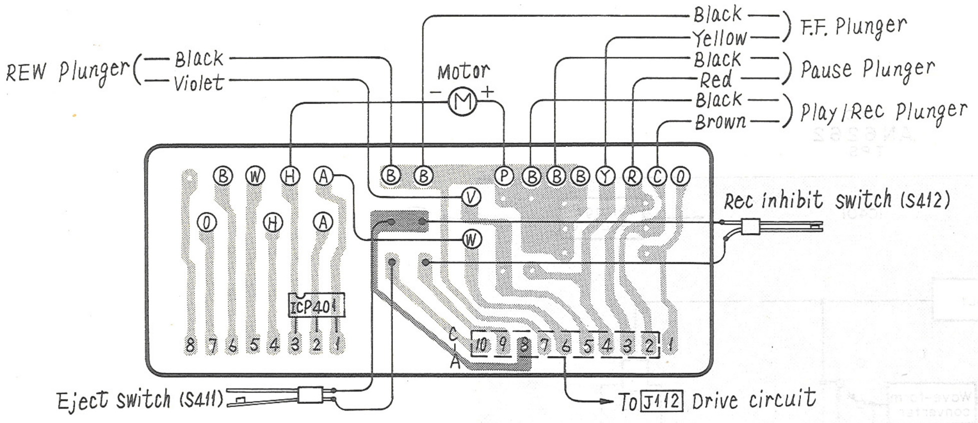
Dolby, Timer stand-by selector


19kHz output
TP204
TP203
TP205
Q201
Q202
Q203
Q206
Q207
IC201
IC202
IC203
CV201
(CT201)
FM ANT
CV203
(CT203)
AM ANT
AM OSC
CT204
CV204
FM OSC
CV202
CT202
T201
T202
T203
T204
T207
T208
CF201
CF202
CF203
L201
L202
L204
L205
L206
L209
L215
L216
Z201
Z202
D201
D202
D204
VR201
VR202
VR203
S501
S502
S503
S504
S505
S201
S202
S203
S601
S602
S603
(FM)
(AM)
(tape)
(phono)
(aux/CD/video)
INPUT SELECTOR
FM muting
/mode
on/auto
off/mono
Low boost
High cut
High boost
J101
1 2 3 4
J102
1 2 3 4 5 6 7 8 9
J103
1 2 3 4 5 6 7 8 9 10
J104
1 2 3 4 5 6
J105
1 2 3
J207
TP201
TP202

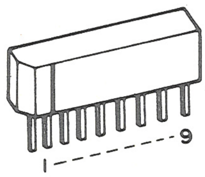
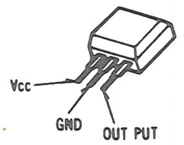
A FM/AM Tuner circuit

TP201 TP202
FM offset voltage adj.

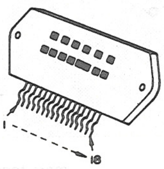
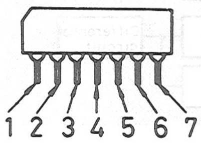
J Plunger, Deck motor


REW Plunger
Black
Violet
Motor
M
Black
F.F. Plunger
Yellow
Black
Red
Pause Plunger
Black
Brown
Play/Rec Plunger
B W H A
B B
P B B B Y R C O
V
W
O H A
Rec inhibit switch (S412)
ICP401
8 7 6 5 4 3 2 1
C
A
10 9 8 7 6 5 4 3 2 1
Eject switch (S411)
To J112 Drive circuit

TERMINAL GUIDE OF TRANSISTORS, IC'S, AND DIODES

<table>
<tr><th>AN278, AN6262</th><th>DN6838</th><th>SVIK4131-2M</th><th>AN7072N</th></tr>
<tr>
<td> </td>
<td>

Vcc
GND
OUT PUT

</td>
<td> </td>
<td> </td>
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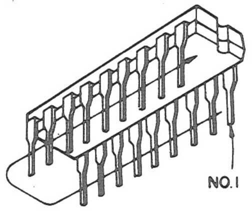
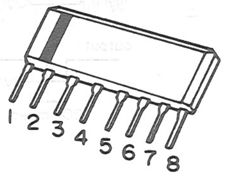
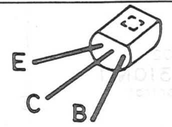
<tr>
<td> </td>
<td>
<table>
<tr><td>AN6558F</td><td rowspan="3">8 pin</td><td>SVIM 54530P</td><td rowspan="3">16 pin</td></tr>
<tr><td>SVINJ 4558DSM</td><td>AN6256</td></tr>
<tr><td>AN6558F</td><td>AN6882</td></tr>
<tr><td>SVIμPD 4066BC</td><td>14 pin</td><td>AN7273A</td><td>18 pin</td></tr>
<tr><td>SVITA 7629P</td><td rowspan="2">16 pin</td><td>SVITC 9310N11</td><td>28 pin</td></tr>
<tr><td>SVIμPC 1161C3</td><td></td><td></td></tr>
</table>
</td>
<td>SVIM5230L
 </td>
<td>2SC1815, 2SC1675, 2SC1685
2SC1845, 2SC1684, 2SC829
2SC1384NC
2SA564, 2SA992, 2SA1015
 </td>
</tr>
<tr><th>2SK195H1</th><th>2SC1583</th><th>2SD762</th><th>2SD1273</th></tr>
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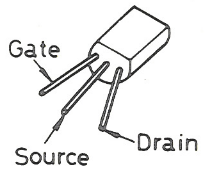
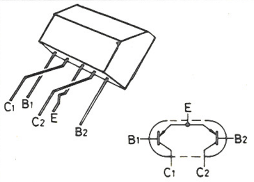
<td>

Gate
Source
Drain

</td>
<td>

C1 B1
C2 E
B2
E
B1
B2
C1 C2

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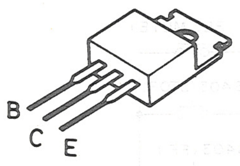
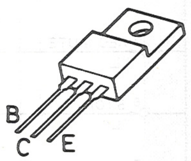
<td> </td>
<td> </td>
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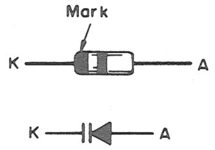
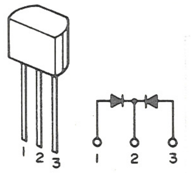
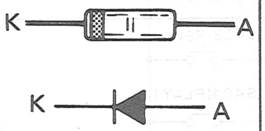
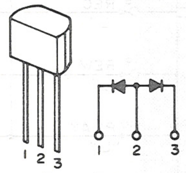
<td> </td>
<td> </td>
<td> </td>
<td> </td>
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LN41YCPH, SVDAY5735S</th><th>SVDS2V20</th></tr>
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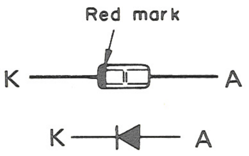
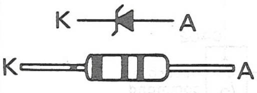
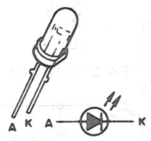
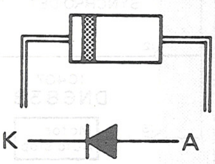
<td>

Red mark
K
A
K
A

</td>
<td> </td>
<td> </td>
<td> </td>
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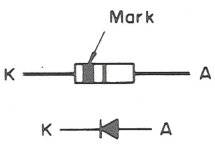
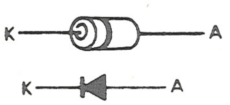
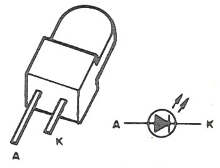
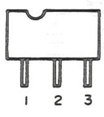
<td> </td>
<td> </td>
<td> </td>
<td> </td>
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■ RESISTORS AND CAPACITORS

Notes:

1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
2. Important safety notice: Compoents identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
3. The "Ⓢ" mark is service standard parts and may differ from production parts.
4. The unit of resistance is OHM (Ω). K = 1000Ω, M = 1000KΩ.
5. The unit of capacitance is MICROFARAD (μF). P = 10^{-6}=F
6. Bracketed indications in Ref. No. columns specify the area. Parts without these indications can be used for all areas.

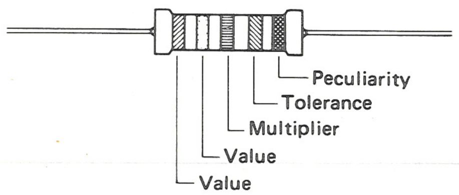
Numbering System of Resistor

Example

ERD	25	F	J	101
Type	Wattage	Shape	Tolerance	Value

Resistor Type	Wattage	Tolerance
ERD: Carbon ERX: Metal film ERO: Metal film ERC: Solid ERD10TL : Chip type carbon	10 : 1/8W 14 : 1/4W 25 : 1/4W S1 : 1/4W 2A : 2W 2F : 1/4W	F : ±1% G : ±2% J : ±5% K : ±10%

★ ECB type capacitor



Numbering System of Capacitor

Example

ECKD	1H	102	Z	F
Type	Voltage	Value	Tolerance	Peculiarity
ECEA	50	M	R47	R
Type	Voltage	Peculiarity use	Value	Special use

Capacitor Type	Voltage		Tolerance
	ECEA Type	Other	
ECEA : Electrolytic ECCD : Ceramic ECKD : Ceramic ECQM : Polyester ECQP : Polypropylene ECBT : Axial Leaded Type Ceramic	1A : 10V 1C : 16V 1E : 25V 1V : 35V 1H : 50V 50 : : 50V 25 : 25V	1H : 50V DC ECQP1 : 100V KC : 400V AC	C : ±0.25pF D : ±0.5pF J : ±5% K : ±10% Z : +80%, −20% P : +100%, −0%

● RESISTORS

Ref. No.	Part No.	Value
R61(×2)	ERD10TLJ154U	150K
R62(×2)	ERD10TLJ104U	100K
R63(×2)	ERD10TLJ274U	270K
R64(×2)	ERD10TLJ473U	47K
R65(×2)	ERD10TLJ104U	100K
R66(×2)	ERD10TLJ322U	3.3K
R67(×2)	ERD10TLJ181U	180
R68(×2)	ERD10TLJ104U	100K
R69(×2)	ERD10TLJ102U	1K
R81,82	ERD10TLJ222U	2.2K
R83,84	ERD10TLJ823U	82K
R85,86	ERD10TLJ274U	270K
R87,88	ERD10TLJ273U	27K
R89,90	ERD10TLJ822U	8.2K
R91,92	ERD10TLJ681U	680
R201 Ⓢ	ERD25FJ271	270
R202 Ⓢ	ERD25FJ220	22
R203 Ⓢ	ERD25TJ474	470K
R204 Ⓢ	ERD25TJ105	1M
R205 Ⓢ	ERD25TJ474	470K
R206 Ⓢ	ERD25FJ222	2.2K
R207 Ⓢ	ERD25TJ333	33K
R208 Ⓢ	ERD25FJ103	10K
R209 Ⓢ	ERD25FJ102	1K
R210 Ⓢ	ERD25TJ824	820K
R211 Ⓢ	ERD25FJ681	680
R212 Ⓢ	ERD25FJ102	1K
R213 Ⓢ	ERD25TJ474	470K
R214 Ⓢ	ERD25FJ471	470
R215 Ⓢ	ERD25FJ681	680
R216 Ⓢ	ERD25FJ182	1.8K

Ref. No.	Part No.	Value
R217 Ⓢ	ERD25FJ472	4.7K
R218 Ⓢ	ERD25FJ272	2.7K
R219 Ⓢ	ERD25FJ182	1.8K
R220 Ⓢ	ERD25FJ821	820
R221 Ⓢ	ERD25FJ561	560
R222 Ⓢ	ERD25TJ153	15K
R223 Ⓢ	ERD25FJ102	1K
R224 Ⓢ	ERD25TJ123	12K
R225 Ⓢ	ERD25TJ104	100K
R226 ⚠	ERDS1FJ820	82
R227,228 Ⓢ	ERD25TJ153	15K
R229,230 Ⓢ	ERD25FJ332	3.3K
R231,232 Ⓢ	ERD25TJ104	100K
R233 Ⓢ	ERD25FJ103	10K
R234 Ⓢ	ERD25TJ153	15K
R235 Ⓢ	ERD25FJ102	1K
R236 Ⓢ	ERD25FJ821	820
R237 Ⓢ	ERD25FJ561	560
R238 Ⓢ	ERD25FJ821	820
R239,240 Ⓢ	ERD25FJ103	10K
R241 Ⓢ	ERD25TJ104	100K
R242 Ⓢ	ERD25FJ102	1K
R243 Ⓢ	ERD25FJ103	10K
R244 Ⓢ	ERD25TJ104	100K
R245 Ⓢ	ERD25FJ103	10K
R246 Ⓢ	ERD25TJ473	47K
R247 Ⓢ	ERD25FJ822	8.2K
R248 Ⓢ	ERD25FJ331	330
R301,302 Ⓢ	ERD25FJ100	10
R303,304 Ⓢ	ERD25TJ184	180K

Ref. No.	Part No.	Value
R230 Ⓢ	ERD25FJ561	560
R305,306 Ⓢ	ERD25TJ474	470K
R307,308 Ⓢ	ERD25FJ121	120
R309,310 Ⓢ	ERD25TJ153	15K
R311,312 Ⓢ	ERD25TJ394	390K
R313,314 Ⓢ	ERD25FJ332	3.3K
R315,316 Ⓢ	ERD25FJ392	3.9K
R317,318 Ⓢ	ERD25TJ394	390K
R319,320 Ⓢ	ERD25TJ684	680K
R321,322 Ⓢ	ERD25FJ472	4.7K
R323,324 Ⓢ	ERD25FJ102	1K
R325,326 Ⓢ	ERD25FJ472	4.7K
R327,328 Ⓢ	ERD25FJ472	4.7K
R329	ERC14GJ106	10M
R330 Ⓢ	ERD25FJ561	560
R331,332 Ⓢ	ERD25FJ472	4.7K
R333,334 Ⓢ	ERD25FJ102	1K
R335 Ⓢ	ERD25FJ102	1K
R336 Ⓢ	ERD25FJ562	5.6K
R337 Ⓢ	ERD25FJ222	2.2K
R338 Ⓢ	ERD25TJ223	22K
R339 Ⓢ	ERD25FJ103	10K
R340 Ⓢ	ERD25TJ223	22K
R341 Ⓢ	ERD25FJ472	4.7K
R343,344 Ⓢ	ERD25TJ104	100K
R345,346 Ⓢ	ERD25TJ104	100K
R347,348 Ⓢ	ERD25TJ104	100K
R349,350 Ⓢ	ERD25FJ102	1K
R351,352 Ⓢ	ERD25FJ562	5.6K
R353,354 Ⓢ	ERD25FJ272	2.7K

Ref. No.	Part No.	Value
R355,356 Ⓢ	ERD25FJ103	10K
R358 Ⓢ⚠	ERD25FJ221	220
R359,360 Ⓢ	ERD25FJ103	10K
R361 Ⓢ	ERD25FJ472	4.7K
R363,364 Ⓢ	ERD25FJ103	10K
R368 Ⓢ	ERD25FJ222	2.2K
R369,370 Ⓢ	ERD25TJ223	22K
R371,372 Ⓢ	ERD25TJ273	27K
R373 Ⓢ	ERD25TJ183	18K
R374 Ⓢ	ERD25TJ183	18K
R375 Ⓢ	ERD25FJ152	1.5K
R401,402 Ⓢ	ERD25TJ223	22K
R403 Ⓢ	ERD25TJ154	150K
R404 ⚠	ERD2FCG390	39
R405,406 Ⓢ	ERD25FJ103	10K
R407	ERO25CKF3002	30K
R408 Ⓢ	ERD25FJ103	10K
R409 Ⓢ	ERD25FJ101	100
R410 Ⓢ	ERD25FJ820	82
R411 Ⓢ	ERD25FJ680	68
R412 Ⓢ	ERD25FJ102	1K
R413,414 Ⓢ	ERD25FJ103	10K
R415 Ⓢ	ERD25FJ152	1.5K
R416 Ⓢ	ERD25FJ103	10K
R419 Ⓢ⚠	ERD25FJ100	10
R420 Ⓢ	ERD25FJ2R2	2.2
R421 Ⓢ	ERD25FJ472	4.7K
R422 Ⓢ	ERD25FJ152	1.5K
R423 ⚠	ERDS1FJ100	10
R424 Ⓢ	ERD25TJ563	56K

Ref. No.	Part No.	Value
R425 Ⓢ	ERD25FJ102	1K
R426 Ⓢ	ERD25FJ222	2.2K
R427 Ⓢ	ERD25FJ472	4.7K
R428 Ⓢ⚠	ERD25FJ221	220
R429 Ⓢ⚠	ERD25FJ151	150
R430 Ⓢ⚠	ERD25FJ180	18
R431,432 Ⓢ	ERD25TJ563	56K
R433,434 Ⓢ	ERD25FJ222	2.2K
R435 Ⓢ⚠	ERD25FJ150	15
R436 Ⓢ⚠	ERD25FJ680	68
R441,442 Ⓢ	ERD25TJ123	12K
R449,450 Ⓢ	ERD25FJ103	10K
R451,452 Ⓢ⚠	ERD25TJ183	18K
R453,454 Ⓢ⚠	ERD25TJ104	100K
R455,456 Ⓢ	ERD25TJ393	39K
R457,458 ⚠	ERDS1FJ101	100
R459,460 Ⓢ	ERD25FJ272	2.7K
R461,462 Ⓢ	ERD25FJ221	220
R463,464 Ⓢ	ERD25FJ221	220
R465,466 ⚠	ERD25FJ3R3	3.3
R467,468 Ⓢ	ERD25FJ103	10K
R469 Ⓢ	ERD25FJ103	10K
R470 Ⓢ	ERD25TJ223	22K
R471 Ⓢ	ERD25TJ183	18K
R473,474 Ⓢ	ERD25TJ123	12K
R475,476 Ⓢ	ERD25FJ222	2.2K

Ref. No.	Part No.	Value
R477,478 Ⓢ	ERD25FJ332	3.3K
R479,480 Ⓢ	ERD25FJ272	2.7K
R481,482 Ⓢ	ERD25FJ102	1K
R483,484 Ⓢ	ERD25FJ182	1.8K
R485 Ⓢ	ERD25FJ392	3.9K
R486,487 Ⓢ	ERD25FJ103	10K
R488 Ⓢ	ERD25FJ102	1K
R501,502 Ⓢ	ERD25FJ152	1.5K
R503,504 Ⓢ	ERD25TJ224	220K
R505,506 Ⓢ	ERD25TJ563	56K
R507,508 Ⓢ	ERD25FJ271	270
R509,510 Ⓢ	ERD25FJ680	68
R511,512 Ⓢ	ERD25TJ184	180K
R513,514 Ⓢ	ERD25TJ123	12K
R515,516 Ⓢ	ERD25TJ104	100K
R517,518 Ⓢ	ERD25FJ102	1K
R519,520 Ⓢ	ERD25FJ472	4.7K
R521,522 Ⓢ	ERD25FJ561	560
R523,524 Ⓢ	ERD25FJ561	560
R525,526 Ⓢ	ERD25FJ102	1K
R531 Ⓢ	ERD25FJ102	1K
R532 Ⓢ	ERD25TJ123	12K
R533 Ⓢ	ERD25TJ273	27K
R534 Ⓢ	ERD25FJ221	220
R535 Ⓢ	ERD25TJ393	39K
R536 Ⓢ	ERD25TJ223	22K

Ref. No.	Part No.	Value
R537 Ⓢ	ERD25FJ562	5.6K
R538 Ⓢ	ERD25FJ102	1K
R539,540 Ⓢ	ERD25TJ473	47K
R541,542 Ⓢ	ERD25TJ104	100K
R543,544 Ⓢ	ERD25TJ473	47K
R545,546 Ⓢ	ERD25TJ683	58K
R547,548 ⚠	ERDS1FJ471	470
R549,550 ⚠	ERD1SFJ471	470
R551 Ⓢ	ERD25FJ682	6.8K
R552 Ⓢ	ERD25TJ154	150K
R553 Ⓢ	ERD25TJ333	33K
R555,556 Ⓢ	ERD25FJ222	2.2K
R561,562 Ⓢ	ERD25FJ102	1K
R563 Ⓢ	ERD25FJ820	82
R601,602 Ⓢ	ERD25FJ102	1K
R603,604 Ⓢ	ERD25TJ563	56K
R607,608 Ⓢ	ERD25TJ123	12K
R609,610 Ⓢ	ERD25TJ473	47K
R611,612 Ⓢ	ERD25FJ222	2.2K
R613,614 Ⓢ	ERD25FJ222	2.2K
R615,616 Ⓢ	ERD25TJ223	22K
R617,618 Ⓢ	ERD25FJ332	3.3K
R619,620 Ⓢ	RD25TJ223	22K
R621,622 Ⓢ	ERX2ANJR22	0.22
R623,624 ⚠	ERDS1FJ100	10
R625,626 ⚠	ERDS1FJ100	10
R627,628 ⚠	ERDS1FJ221	220

Ref. No.	Part No.	Value
R631,632 Ⓢ	ERD25TJ153	15K
R633 Ⓢ	ERD25FJ222	2.2K
R634 Ⓢ	ERD25FJ222	2.2K
R635,636 Ⓢ	ERD25TJ223	22K
R638 Ⓢ	ERD25FJ103	10K
R639 Ⓢ	ERD25TJ393	39K
R640 Ⓢ	ERD25TJ393	39K
R641 Ⓢ⚠	ERD25FJ220	22
R643,644 Ⓢ	ERD25TJ824	820K
R645,646 Ⓢ	ERD25FJ182	1.8K
R647,648 Ⓢ	ERD25TJ683	68K
R649,650 Ⓢ	ERD25FJ821	820
R651,652 Ⓢ	ERD25TJ824	820K
R654 Ⓢ	ERD25TJ333	33K
R655 Ⓢ	ERD25TJ104	100K
R702 Ⓢ⚠	ERD25FJ1R0	1
R703 Ⓢ⚠	ERD25FJ101	100
R704 Ⓢ⚠	ERD25FJ561	560
R706	ERO25CKF2402	24K
R707 Ⓢ	ERD25TJ183	18K
R708 Ⓢ	ERD25TJ153	15K
R709 Ⓢ	ERD25FJ332	3.3K
R710 ⚠	ERDS1FJ152	1.5K
R711 Ⓢ⚠	ERD25FJ101	100K
R712 Ⓢ	ERD25FJ472	4.7K
R713 Ⓢ	ERD25FJ101	100
R714 ⚠	ERDS1FJ332	3.3K

CAPACITORS

Ref. No.	Part No.	Value
C60(×2) Ⓢ	ECEA1AS221	220
C61(×2) Ⓢ	ECEA50MR33R	0.33
C62(×2) Ⓢ	ECEA50ZR1	0.1
C63(×2) Ⓢ	ECEA1HS100	10
C64(×2)	ECQM1H473KV	0.047
C65(×2)	ECQM1H472JV	0.0047
C66(×2) Ⓢ	ECQM1H273JZ	0.027
C67(×2) Ⓢ	ECEA1HS100	10
C68(×2)	ECQM1H562JV	0.0056
C69(×2) Ⓢ	ECEA1HS100	10
C70(×2) Ⓢ	ECEA1HS100	10
C81,82 Ⓢ	ECEA50ZR3R3	3.3
C83,84 Ⓢ	ECEA50ZR3R3	3.3
C85,86 Ⓢ	ECEA1HS100	10
C87 Ⓢ	ECEA1HS470	47
C201 Ⓢ	ECCD1H220K	22P
C202 Ⓢ	ECCD1H180K	18P
C203 Ⓢ	ECCD1H030CC	3P
C205 Ⓢ	ECKD1H103ZF	0.01
C206	ECBT1C103ZYY	0.01
C207 Ⓢ	ECCD1H220KC	22P
C208 Ⓢ	ECCD1H0R5CC	0.5P
C209 Ⓢ	ECCD1H010CC	1P
C210	ECBT1C223NYY	0.22
C211 Ⓢ	ECCD1H120KC	12P
C212 Ⓢ	ECCD1H390KC	39P
C213 Ⓢ	ECCD1H100KC	10P
C214	ECBT1C103ZYY	0.01
C215 Ⓢ	ECEA1CS330	33
C216 Ⓢ	ECCD1H180KC	18P
C217 Ⓢ	ECCD1H471KB	470P
C218 Ⓢ	ECKD1H103ZF	0.01
C219 Ⓢ	ECKD1H103ZF	0.01
C220	ECBT1C223NYY	0.022
C221,222	ECBT1C223NYY	0.022
C223 Ⓢ	ECEA50Z1	1
C224	ECBT1C103ZYY	0.01
C225,226	ECBT1C223NYY	0.022
C227	ECBT1C223NYY	0.022
C228 Ⓢ	ECEA1HS100	10
C229 Ⓢ	ECEA1AS101	100
C230 Ⓢ	ECEA25Z4R7	4.7

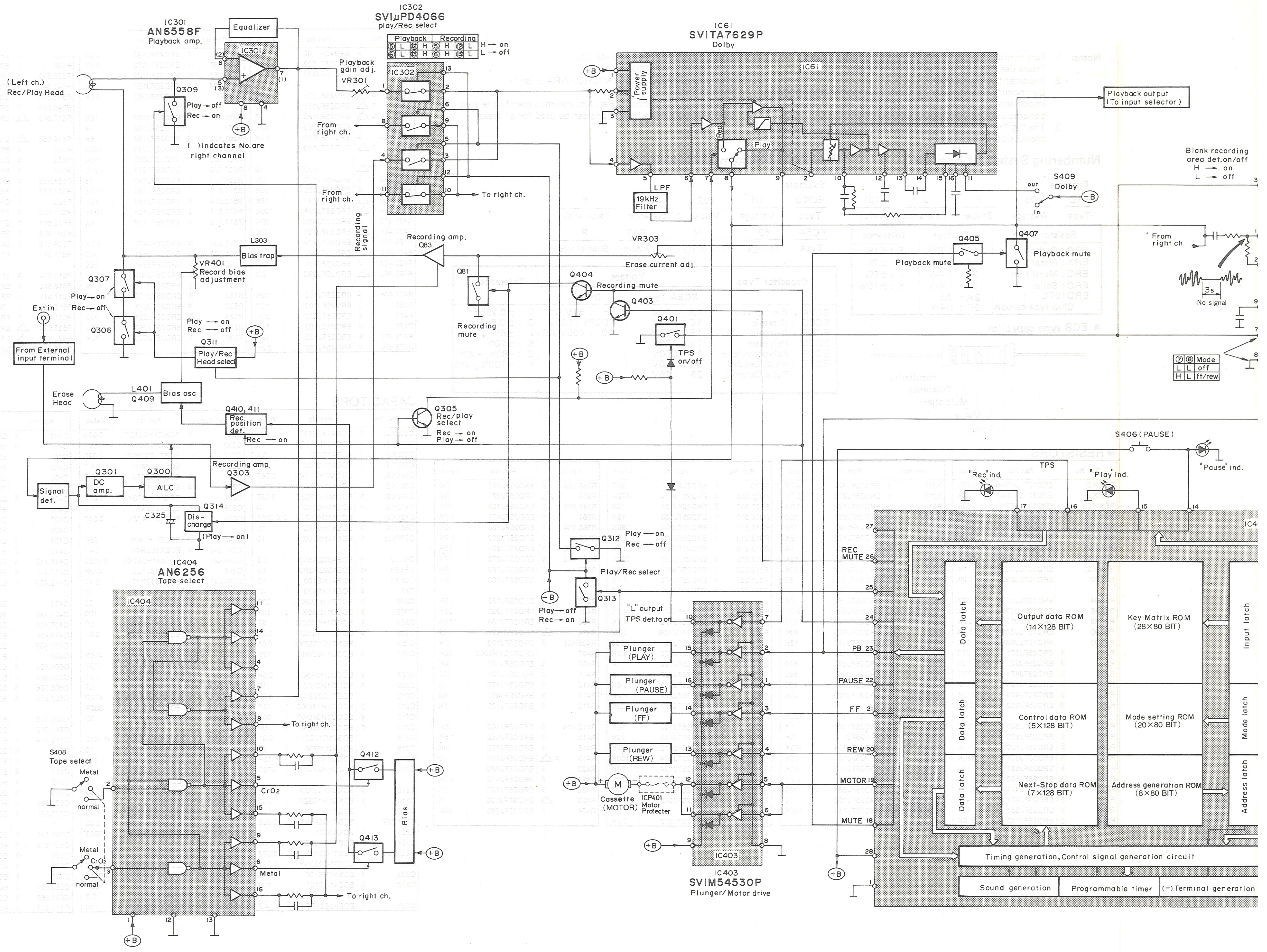
Ref. No.	Part No.	Value
C231 Ⓢ	ECKD1H333ZF	0.033
C232 Ⓢ	ECCD1H101K	100P
C233	ECBT1C223NYY	0.022
C234 Ⓢ	ECEA25Z4R7	4.7
C235 Ⓢ	ECEA25Z4R7	4.7
C236 Ⓢ	ECCD1H101K	100P
C237	ECQM1H473KV	0.047
C238 Ⓢ	ECEA25Z4R7	4.7
C239	ECQM1H473KV	0.047
C240 Ⓢ	ECCD1H680K	68P
C241,242 Ⓢ	ECEA50ZR47	0.47
C243,244	ECQM1H822KV	0.0082
C245	ECQP1471JZ	470P
C246,247 Ⓢ	ECEA50ZR47	0.47
C248,249 Ⓢ	ECEA1HS100	10
C250 Ⓢ	ECEA1ES220	22
C251 Ⓢ	ECEA1ES101	100
C252 Ⓢ	ECCD1H060CC	6P
C253 Ⓢ	ECKD1H103ZF	0.01
C254 Ⓢ	ECKD1H471KB	470P
C255 Ⓢ	ECKD1H471KB	470P
C258 Ⓢ	ECKD1H103ZF	0.01
C301,302 Ⓢ	ECEA25M4R7R	4.7
C303,304 Ⓢ	ECKD1H471KB	470P
C305,306 Ⓢ	ECKD1H331KB	330P
C307,308 Ⓢ	ECEA1CS330	33
C309,310	ECQM1H822JV	0.0082
C311,312 Ⓢ	ECEA1HS100	10
C313,314 Ⓢ	ECQM1H183JZ	0.018
C317,318 Ⓢ	ECEA1HS100	10
C319,320 Ⓢ	ECEA50Z3R3	3.3
C321,322 Ⓢ	ECEA50ZR33	0.33
C323,324 Ⓢ	ECEA50ZR1	0.1
C325 Ⓢ	ECEA1HS100	10
C327,328 Ⓢ	ECEA50MR33R	0.33
C329,330	ECQM1H332KV	0.0033
C331,332 Ⓢ	ECEA50Z1	1
C333,334	ECQM1H222KV	0.0022
C335,336	ECQM1H182KV	0.0018
C337,338	ECQP1121JZ	120P
C339 Ⓢ	ECEA50Z2R2	2.2
C340,341 Ⓢ	ECEA1ES101	100

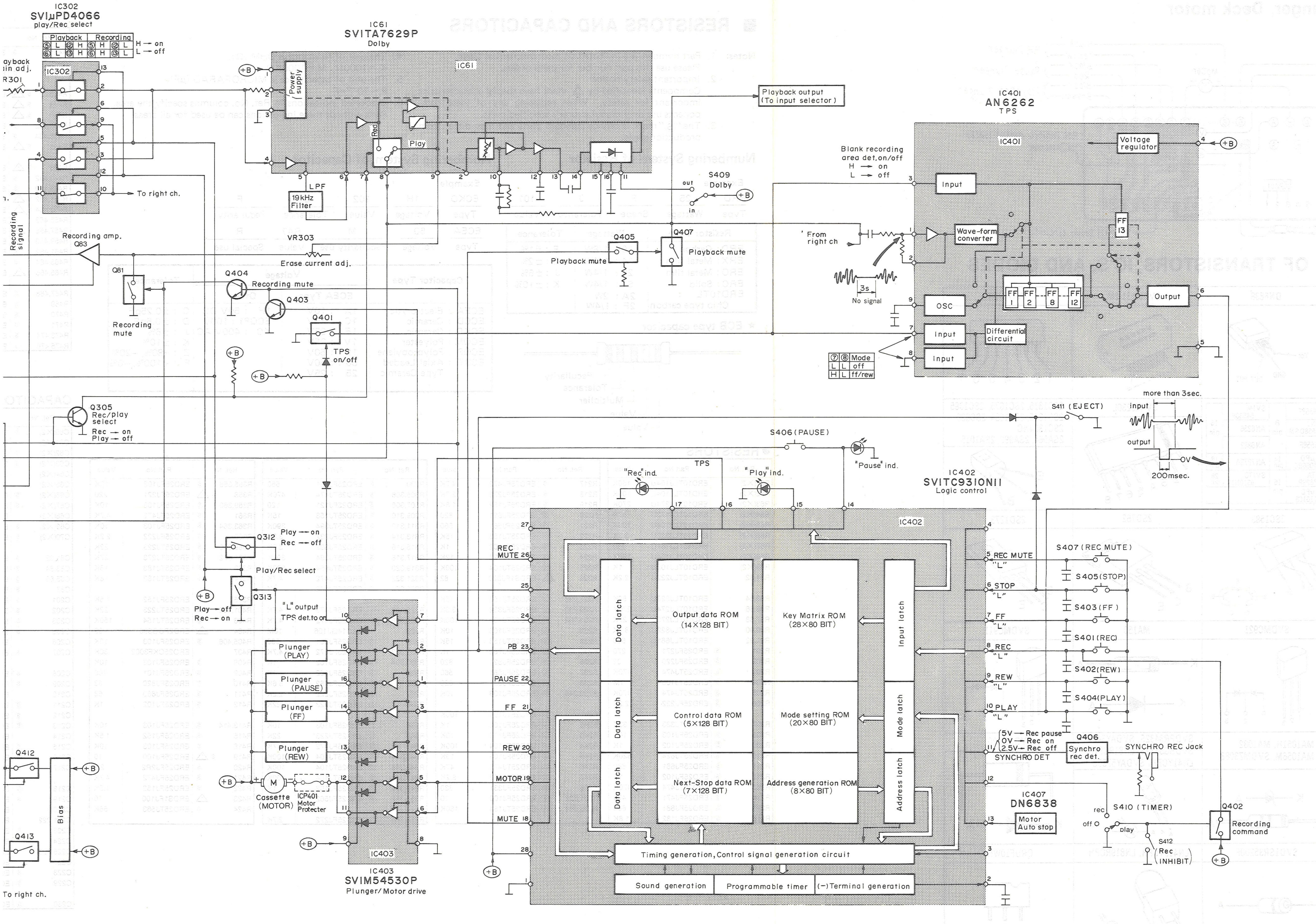
Ref. No.	Part No.	Value
C342 Ⓢ	ECEA1CS330	33
C400 Ⓢ	ECEA1ES470	47
C401	ECQM1H103KV	0.01
C402	ECQM1H273KV	0.027
C403	ECQP1562JZ	5600P
C404	ECBT1C103ZYY	0.01
C405 Ⓢ	ECEA50Z3R3	3.3
C406	ECQM1H153JV	0.015
C407	ECQM1H153KV	0.015
C408	ECQM1H472KV	0.0047
C409 Ⓢ	ECEA50Z1	1
C410 Ⓢ	ECEA1ES470	47
C411,412 Ⓢ	ECCD1H101K	100P
C417,418 Ⓢ	ECEA50Z1	1
C419,420 Ⓢ	ECEA1HS100	10
C422	ECBT1C103ZYY	0.01
C425,426	ECQM1H563KV	0.056
C427,428	ECQM1H683KV	0.068
C429,430	ECQM1H393JV	0.039
C431,432 Ⓢ	ECEA1HS470	47
C499 Ⓢ	ECCD1H470K	47P
C501,502 Ⓢ	ECEA50Z3R3R	3.3
C503,504 Ⓢ	ECCD1H470K	47P
C505,506 Ⓢ	ECKD1H102ZF	0.001
C507,508 Ⓢ	ECEA1CS330	33
C509,510	ECQM1H223KV	0.022
C511,512	ECQM1H682KV	0.0088
C513,514 Ⓢ	ECEA50Z1	1
C515 Ⓢ	ECEA25Z4R7	4.7
C516 Ⓢ	ECKD1H102ZF	0.001
C517 Ⓢ	ECCD1H470K	47P
C518 Ⓢ	ECEA50Z1	1
C519 Ⓢ	ECEA1CS470	47
C521,522 Ⓢ	ECEA50Z3R3	3.3
C523,524 Ⓢ	ECCD1H470K	47P
C525,526 Ⓢ	ECCD1H270K	27P
C527,528 Ⓢ	ECEA50Z3R3	3.3
C529 Ⓢ	ECEA1ES220	22
C530 Ⓢ	ECEA1ES470	47
C531 Ⓢ	ECCD1H221K	220P
C550,551 Ⓢ	ECKD1H102MD	0.001
C561,562 Ⓢ	ECKD1H151K	150P
C571,572 Ⓢ	ECKD1H223ZF	0.022

Ref. No.	Part No.	Value
C573,574 Ⓢ	ECKD1H103ZF	0.01
C601,602 Ⓢ	ECEA50Z3R3	3.3
C603,604 Ⓢ	ECCD1H101K	100P
C605,606 Ⓢ	ECCD1H221K	220P
C607,608 Ⓢ	ECCD1H150K	15P
C609,610 Ⓢ	ECEA1HS100	10
C611,612 Ⓢ	ECEA1HS100	10
C613,614 Ⓢ	ECEA1HS220	22
C615,616	ECQM1H473KV	0.047
C617,618	ECQM1H473KV	0.047
C619 Ⓢ	ECEA1ES101	100
C621 Ⓢ	ECEA1HS470	47
C622 Ⓢ	ECEA1VS101	100
C623 Ⓢ	ECEA1HS4R7	4.7
C624 Ⓢ	ECEA50Z3R3	3.3
C625,626 Ⓢ	ECQM1H273JZ	0.027
C627,628	ECQM1H273KV	0.027
C630	ECQM1H473KV	0.047
C631,632 Ⓢ	ECQM1H152KV	0.0015
C641,642 Ⓢ	ECKD1H223ZF	0.02
C643,644 Ⓢ	ECKD1H102MD	0.001
C700 ⚠	ECKDKC103PF	0.01
C701,702	ECETS1VV682U	6800
C703 Ⓢ	ECEA1VS222	2200
C704 Ⓢ	ECEA1VS101	100
C705 Ⓢ	ECEA50Z1	1
C706	ECEA1HG101S	100
C707,708 Ⓢ	ECEA1HS100	10
C709,710 Ⓢ	ECKD1H103ZF	0.01
C711 Ⓢ	ECEA1ES470	47
C712	ECKD1H104KV	0.1
C713 Ⓢ	ECEA1CS330	33
C714 ⚠	ECQE1104KN	0.1
C715 Ⓢ	ECEA50Z1	1
C717 Ⓢ	ECEA1CS330	33
C718 Ⓢ	ECEA50Z1	1
C719 Ⓢ	ECEA1HS470	47

■ BLOCK DIAGRAMS

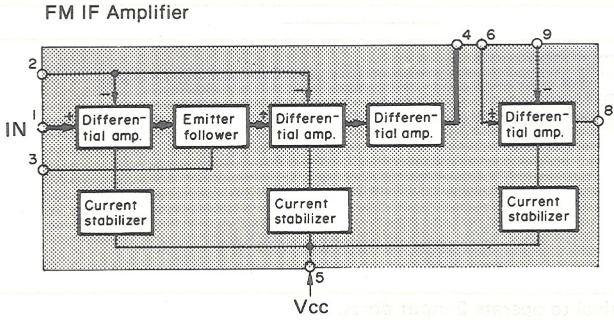
Cassette deck rec/play and Deck logic control circuit

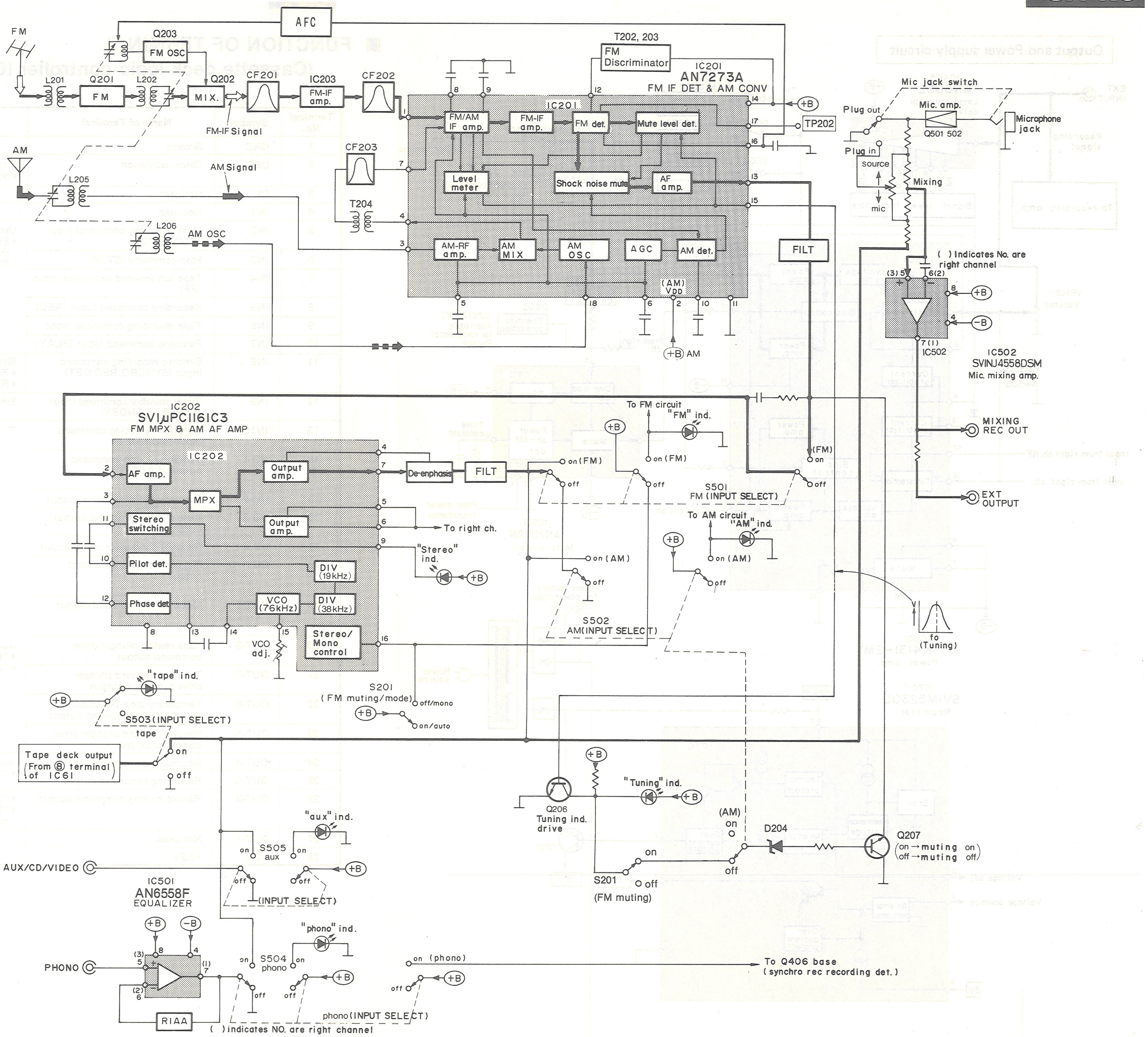

IC301
AN6558F
Playback amp.
Equalizer
IC301
(Left ch.)
Rec/Play Head
Q309
Play — off
Rec — on
( ) indcates No. are right channel
IC302
SVIμPD4066
play/Rec select
Playback
Recording
H — on
L — off
Playback gain adj.
VR301
From right ch.
From right ch.
To right ch.
Recording signal
IC61
SVITA7629P
Dolby
Power supply
Rec
Play
LPF
19kHz Filter
VR303
Erase current adj.
Playback output
(To input selector)
Blank recording area det. on/off
H — on
L — off
S409
Dolby
out
in
From right ch
3s
No signal
Q405
Playback mute
Q407
Playback mute
L303
Bias trap
VR401
Record bias adjustment
Recording amp.
Q83
Q81
Recording mute
Q404
Recording mute
Q403
Q401
TPS on/off
Q307
Play — on
Rec — off
Ext in
Q306
Play — on
Rec — off
Q311
Play/Rec Head select
From External input terminal
Erase Head
L401
Q409
Bias osc
Q410, 411
Rec position det.
Rec — on
Q305
Rec/play select
Rec — on
Play — off
Signal det.
Q301
DC amp.
Q300
ALC
Recording amp.
Q303
C325
Q314
Dis-charge
(Play — on)
IC404
AN6256
Tape select
To right ch.
S408
Tape select
Metal
normal
CrO2
Metal
Q412
Q413
Bias
To right ch.
Q312
Play — on
Rec — off
Play/Rec select
Q313
Play — off
Rec — on
"L" output
TPS det. to on
Plunger (PLAY)
Plunger (PAUSE)
Plunger (FF)
Plunger (REW)
M
Cassette (MOTOR)
ICP401
Motor Protecter
IC403
IC403
SVIM54530P
Plunger/Motor drive
⑦ ⑧ Mode
L L off
H L ff/rew
S406 (PAUSE)
"Pause" ind.
TPS
"Rec" ind.
"Play" ind.
REC MUTE 26
PB 23
PAUSE 22
FF 21
REW 20
MOTOR 19
MUTE 18
Data latch
Data latch
Data latch
Output data ROM
(14×128 BIT)
Key Matrix ROM
(28×80 BIT)
Control data ROM
(5×128 BIT)
Mode setting ROM
(20×80 BIT)
Next-Stop data ROM
(7×128 BIT)
Address generation ROM
(8×80 BIT)
Input latch
Mode latch
Address latch
Timing generation, Control signal generation circuit
Sound generation
Programmable timer
(−)Terminal generation
IC4
+B


IC302
SVIμPD4066
play/Rec select
Playback
Recording
H → on
L → off
Playback gain adj.
R301
Recording signal
To right ch.
IC61
SVITA7629P
Dolby
Power supply
Rec
Play
LPF
19kHz Filter
Playback output (To input selector)
IC401
AN6262
TPS
Voltage regulator
Blank recording area det.on/off
H → on
L → off
Input
Wave-form converter
From right ch
3s
No signal
OSC
FF 13
FF 1
FF 2
FF 8
FF 12
Output
Input
Differential circuit
⑦⑧ Mode
L L off
H L ff/rew
S409
Dolby
out
in
Recording amp.
Q83
VR303
Erase current adj.
Q405
Playback mute
Q407
Playback mute
Q81
Recording mute
Q404
Recording mute
Q403
Q401
TPS on/off
Q305
Rec/play select
Rec → on
Play → off
S411 (EJECT)
more than 3sec.
input
output
0V
200msec.
S406 (PAUSE)
"Pause" ind.
TPS
"Rec" ind.
"Play" ind.
IC402
SVITC9310N11
Logic control
Q312
Play → on
Rec → off
Play/Rec select
Q313
Play → off
Rec → on
"L" output
TPS det.to on
REC MUTE
PB
PAUSE
FF
REW
MOTOR
MUTE
Data latch
Output data ROM (14×128 BIT)
Key Matrix ROM (28×80 BIT)
Input latch
Control data ROM (5×128 BIT)
Mode setting ROM (20×80 BIT)
Mode latch
Next-Stop data ROM (7×128 BIT)
Address generation ROM (8×80 BIT)
Address latch
Timing generation, Control signal generation circuit
Sound generation
Programmable timer
(−)Terminal generation
REC MUTE "L"
STOP "L"
FF "L"
REC "L"
REW "L"
PLAY "L"
S407 (REC MUTE)
S405 (STOP)
S403 (FF)
S401 (REC)
S402 (REW)
S404 (PLAY)
5V → Rec pause
0V → Rec on
2.5V → Rec off
SYNCHRO DET
Q406
Synchro rec det.
SYNCHRO REC Jack
IC407
DN6838
Motor Auto stop
S410 (TIMER)
rec
off
play
S412
(Rec INHIBIT)
Q402
Recording command
Plunger (PLAY)
Plunger (PAUSE)
Plunger (FF)
Plunger (REW)
Cassette (MOTOR)
ICP401
Motor Protecter
IC403
SVIM54530P
Plunger/Motor drive
Q412
Q413
Bias
To right ch.
+B

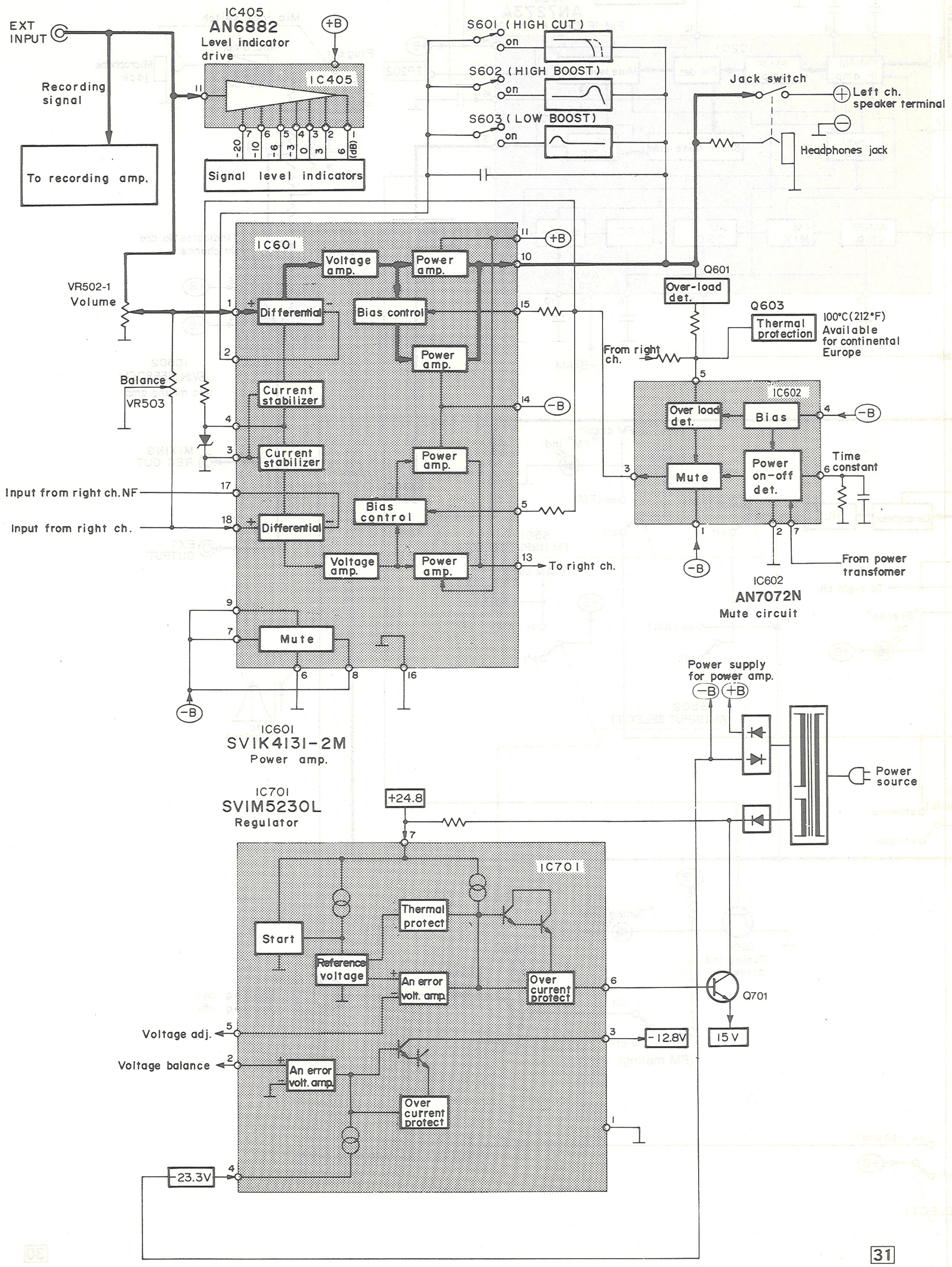
FM/AM Tuner and Input selector circuit

IC203
AN278
FM IF Amplifier


2
4
6
9
IN
1
3
8
OUT
Differential amp.
Emitter follower
Differential amp.
Differential amp.
Differential amp.
Current stabilizer
Current stabilizer
Current stabilizer
5
Vcc


AFC
Q203
FM OSC
FM
L201
Q201
FM
L202
Q202
MIX.
CF201
IC203
FM-IF amp.
CF202
FM-IF Signal
AM
L205
AM Signal
L206
AM OSC
CF203
T204
T202, 203
FM Discriminator
IC201
AN7273A
FM IF DET & AM CONV
IC201
FM/AM IF amp.
FM-IF amp.
FM det.
Mute level det.
Level meter
Shock noise mute
AF amp.
AM-RF amp.
AM MIX
AM OSC
AGC
AM det.
(AM) VDD
+B AM
+B
TP202
FILT
IC202
SVIμPC1161C3
FM MPX & AM AF AMP
IC202
AF amp.
MPX
Output amp.
Output amp.
Stereo switching
Pilot det.
Phase det.
DIV (19kHz)
DIV (38kHz)
VCO (76kHz)
VCO adj.
Stereo/Mono control
De-enphasis
FILT
To right ch.
"Stereo" ind.
+B
To FM circuit
"FM" ind.
on (FM)
off
S501
FM (INPUT SELECT)
To AM circuit
"AM" ind.
on (AM)
off
S502
AM (INPUT SELECT)
fo
(Tuning)
S201
(FM muting/mode)
off/mono
on/auto
"tape" ind.
S503 (INPUT SELECT)
tape
Tape deck output
(From ⑧ terminal of IC61)
on
off
Q206
Tuning ind. drive
"Tuning" ind.
(AM)
on
D204
Q207
(on → muting on)
(off → muting off)
on
off
S201
(FM muting)
"aux" ind.
S505
aux
AUX/CD/VIDEO
(INPUT SELECT)
IC501
AN6558F
EQUALIZER
+B
-B
PHONO
RIAA
"phono" ind.
S504
phono
on (phono)
To Q406 base
(synchro rec recording det.)
phono (INPUT SELECT)
( ) indicates NO. are right channel
Mic jack switch
Plug out
Mic. amp.
Microphone jack
Q501 502
Plug in
source
mic
Mixing
( ) Indicates No. are right channel
IC502
SVINJ4558DSM
Mic. mixing amp.
MIXING REC OUT
EXT OUTPUT
(FM)
on
off

Output and Power supply circuit


EXT INPUT
Recording signal
To recording amp.
IC405
AN6882
Level indicator drive
IC405
+B
11
7 6 5 4 3 2 1
-20 -10 -6 -3 0 3 6 (dB)
Signal level indicators
S601 (HIGH CUT)
S602 (HIGH BOOST)
S603 (LOW BOOST)
on
Jack switch
Left ch. speaker terminal
Headphones jack
VR502-1 Volume
Balance VR503
IC601
Voltage amp.
Power amp.
Differential
Bias control
Power amp.
Current stabilizer
Current stabilizer
Power amp.
Bias control
Differential
Voltage amp.
Power amp.
Mute
Input from right ch.NF
Input from right ch.
To right ch.
+B
-B
Q601
Over-load det.
Q603
Thermal protection
100°C (212°F) Available for continental Europe
From right ch.
IC602
Over load det.
Bias
Mute
Power on-off det.
Time constant
From power transformer
IC602
AN7072N
Mute circuit
IC601
SVIK4131-2M
Power amp.
Power supply for power amp.
Power source
IC701
SVIM5230L
Regulator
+24.8
IC701
Start
Reference voltage
Thermal protect
An error volt. amp.
Over current protect
An error volt. amp.
Over current protect
Q701
-12.8V
15V
-23.3V
Voltage adj.
Voltage balance

■ FUNCTION OF TERMINAL
(Cassette deck logic controller IC402, SVITC9310N11)

Terminal No.	Symbol	Name of Terminal	Description
1	GND	Ground	—
2	OSC	Clock oscillation	Single-terminal oscillation circuit that oscillates clock. • Standard oscillation frequency is 128kHz.
3	CL	Not used	—
4	IN1	Not used	—
5	IN2	Mute recording command input (REC MUTE)	Used as normal input port • Either "L" level active or "H" level active can be selected by key matrix ROM data. • This unit is "L" level active.
6	IN3	Stop command (STOP)	
7	IN4	Tape fast forward command input (FF)	
8	IN5	Recording command input (REC)	
9	IN6	Tape rewinding command input	
10	IN7	Playback command input (PLAY)	
11	IN8	Synchro recording command input (SYNCRO REC DET)	Single terminal to operate 2 input ports. • Recording begins when input is 0V. • Recording stands by when input is 5V.
12	IN9	Timer standby command input (TIMER STANDBY)	Single terminal to operate 2 input ports.
13	IN10	Rotation detecting command input (RUN DET)	The number of input clocks is counted according to the command of ET (enable timer) in program.
14	I/O-1	Temporary stop command output (PAUSE)	Used as input/output port. ("H" level active) • Input → Temporary stop command • Output → Temporary stop indicator drive
15	I/O-2	Playback indicator drive output	"H" level active.
16	I/O-3	Auto cueing command output (TPS)	"H" level active.
17	I/O-4	Recording indicator drive output	"H" level active.
18	OUT-10	Playback muting command output	Inversion output port • "H" level with motor in drive mode. • "L" level with motor not in drive mode.
19	OUT-9	Motor drive command output	Inversion output port • "H" level with motor in drive mode. • "L" level with motor not in drive mode.
20	OUT-8	Tape rewind plunger drive command output	Normal output ports — bi-polar outputs. • "H" level with plunger in drive mode. • "L" level with plunger not in drive mode.
21	OUT-7	Tape fast forward plunger drive command output	
22	OUT-6	Temporary stop (PAUSE)/stop plunger drive command output	
23	OUT-5	Playback/record plunger drive command output	
24	OUT-4	Recording command output	Normal output ports — bi-polar outputs. • "H" level active.
25	OUT-3	Recording command output	
26	OUT-2	Record muting command output	• "H" level for a moment with rec switch ON. • "H" level for 3 — 4 sec. when REC MUTE switch is pressed during recording mode.
27	OUT-1	Not used.	—
28	VDD	+5.2V	—

H = more than 4.5V M = 2.5V L = 0V

Operation of "Playback" mode

Pin No. MODE	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕	㉖	㉘
PLAY	H	H	H	H	H	H	M	M	Ⓐ	L	H	L	L	L	H	L	L	L	H	L	L	L	H

Operation of "Fast-forward" mode

Pin No. MODE	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕	㉖	㉘
FF	H	H	H	H	H	H	M	M	Ⓐ	L	L	L	L	H	H	L	H	L	L	L	L	L	H

Operation of "Rewind" mode

Pin No. MODE	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕	㉖	㉘
REW	H	H	H	H	H	H	M	M	Ⓐ	L	L	L	L	H	H	H	L	L	L	L	L	L	H

Operation of "Record" mode

Pin No. MODE	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕	㉖	㉘
REC	H	H	H	H	H	H	M	M	Ⓐ	L	H	L	H	H	H	L	L	L	H	H	L	L	H

Operation of "Stop" mode

Pin No. MODE	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕	㉖	㉘
STOP	H	H	H	H	H	H	M	M	L	L	L	L	L	H	L	L	L	L	L	L	L	L	H

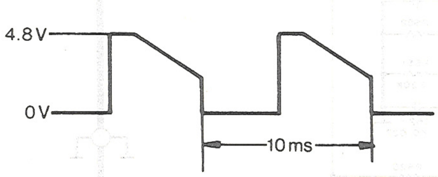
Operation of "Pause" mode

Pin No. MODE	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕	㉖	㉘
PAUSE	H	H	H	H	H	H	M	M	L	H	L	L	L	H	H	L	L	H	H	L	L	L	H

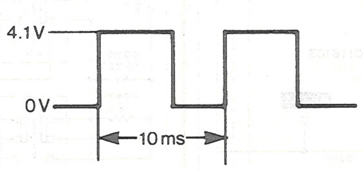
Operation of "Automatic-repeat playback" mode

Pin No. MODE	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕	㉖	㉘
PLAY	H	H	H	H	H	H	M	M	Ⓐ	L	Ⓑ	L	L	L	H	L	L	L	H	L	L	L	H

Voltage of Ⓐ mark pin



Voltage of Ⓑ mark pin



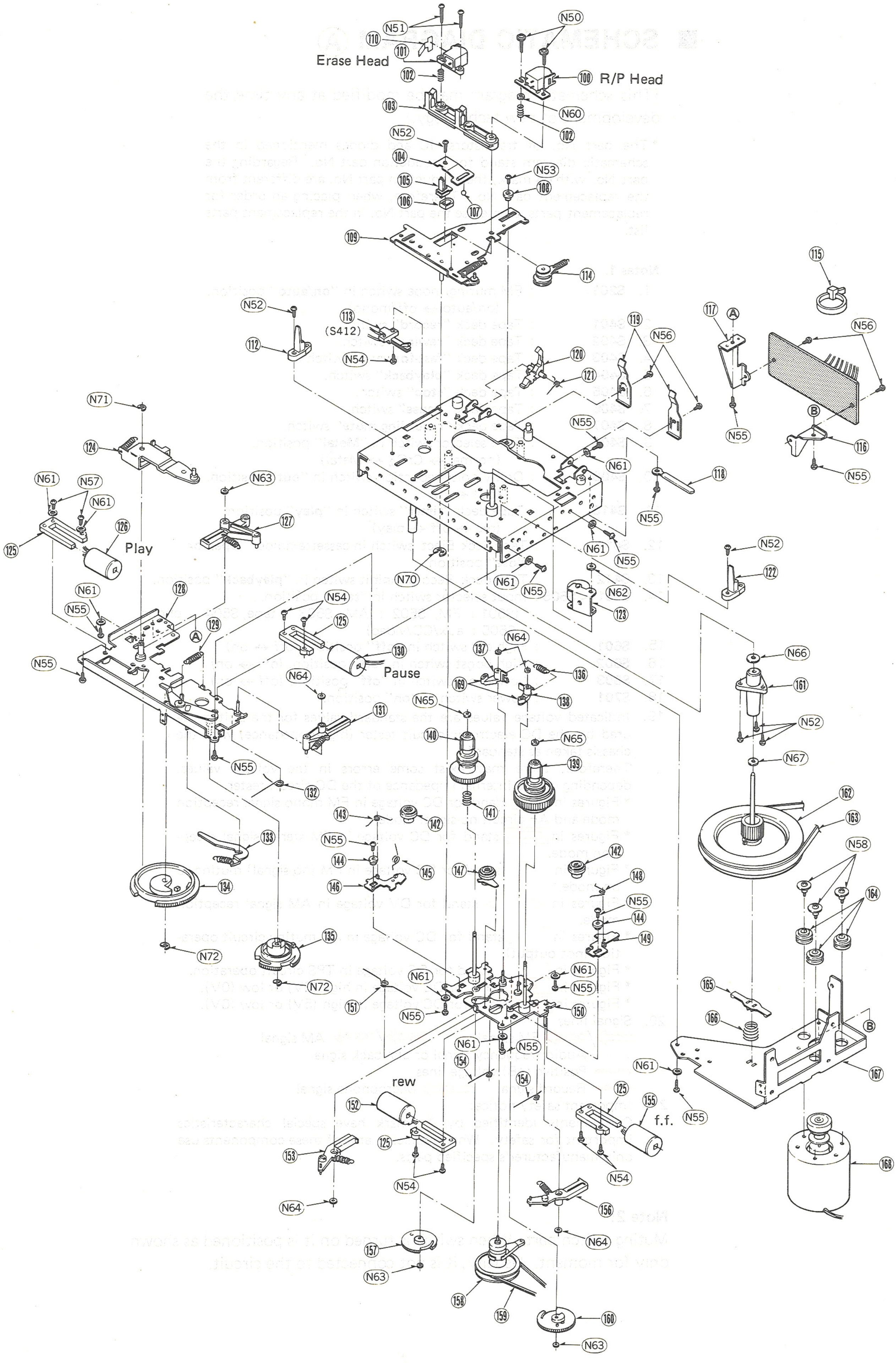
■ REPLACEMENT PARTS LIST AND EXPLODED VIEW

(Cassette deck mechanism)

Notes:
1. Part numbers are indicated on most mechanical parts. Please use this part number for parts order.
2. The "Ⓢ" mark is service standard parts and may differ from production parts.
3. The parenthesized numbers in the column of description stand for the quantity per set.

Ref. No.	Part No.	Description
CASSETTE DECK CHASSIS PARTS		
100	SJHRP7342CRA	R/P Head (1)
101	SJHE321PL	Erase Head (1)
102	SMQ4152	Spring,Head (2)
103	SMQT1229	Head Spacer (1)
104	SMQ4156	Head Base Pressure Plate (1)
105	SMQ4128	Guide Pin (1)
106	SMQ4288	Cushion,Guide Pin (1)
107	SMQ4294	Steel Ball (1)
108	SMQ4168	Roller (1)
109	SMQ4154	Head Panel (1)
110	SUS313	Spring,Erase Head (1)
112	SMQ4132	Guide (1)
113	SMQ4150	Switch(S412),Rec Inhight(1)
114	SMQ4166	Take Up Idler Ass'y (1)
115	SMQT1255	Clamper (1)
116	SMQT1261	Bracket,P.C.B (1)
117	SMQT1263	Bracket,P.C.B (1)
118	SMQ4124	Clamper (1)
119	SMQ4126	Spring (2)
120	SMQ4134	Lever,Rec (1)
121	SMQ4136	Spring,Rec Lever (1)
122	SMQ4130	Guide (1)
123	SMQ4170	Pinch Roller (1)
124	SMQ4242	Lift Arm (1)
125	SMQT1275	Plunger, Play (4)
126	SMQT1251	Coil (1)
127	SMQ4230	Arm (1)
128	SMQT1249	Upper Base Plate (1)
129	SMQ4226	Spring (1)
130	SMQT1253	Coil, Pause (1)
131	SMQ4236	Arm (1)
132	SMQ4234	Spring (1)
133	SMQ4238	Arm (1)
134	SMQT1271	Gear (1)
135	SMQ4232	Gear (1)
136	SMQ4202	Spring,Auto Lever (1)
137	SMQ4204	Brake Arm (1)
138	SMQ4206	Brake Arm (1)
139	SMQT1241	Reel (1)
140	SMQ4174	Reel (1)
141	SMQ4176	Spring,Back Tension (1)
142	SMQ4186	Idler Shaft Retainer,FF (2)
143	SMQ4210	Spring,Rew. (1)
144	SMQ4182	Roller (2)
145	SMQT1247	Spring (1)
146	SMQ4208	Operation Plate (1)

Ref. No.	Part No.	Description
CASSETTE DECK CHASSIS PARTS		
147	SMQ4214	Idler Arm (1)
148	SMQ4184	Spring,Operation Plate (1)
149	SMQ4180	Operation Plate (1)
150	SMQT1239	Reel Base Plate (1)
151	SMQ4212	Spring,Return (1)
152	SMQT1245	Coil, Rew (1)
153	SMQ4224	Arm (1)
154	SMQ4220	Spring,Gear (2)
155	SMQT1243	Coil, ff (1)
156	SMQ4218	Arm (1)
157	SMQ4222	Gear,Rew. (1)
158	SMQ4178	Take up Gear Ass'y (1)
159	SMQ4200	Belt (1)
160	SMQ4216	Gam Gear (1)
161	SMQ4190	Shaft,Flywheel (1)
162	SMQ4188	Flywheel (1)
163	SMQ2134	Belt (1)
164	SMQT1233	Cushion Rubber,Motor (9)
165	SMQ4192	Cushion Plate (1)
166	SMQ4194	Spring (1)
167	SMQT1231	Bracket,Motor (1)
168	SMQT1273	Motor Ass'y (1)
169	SMQ4290	Rubber (2)
SCREWS		
N50 Ⓢ	XSN2+10	⊕2×10 (2)
N51	XSN2+11	⊕2×11 (2)
N52 Ⓢ	XSN2+6	⊕2×6 (6)
N53 Ⓢ	XSN26+5	⊕2.6×5 (1)
N54 Ⓢ	XSN2+5	⊕2×5 (7)
N55 Ⓢ	XSN2+4	⊕2×4 (15)
N56 Ⓢ	XSN26+4	⊕2.6×4 (4)
N57 Ⓢ	XSN2+8	⊕2×8 (2)
N58	SMQ1908	(3)
WASHERS		
N60 Ⓢ	XWG2	Plain, φ 2 (1)
N61 Ⓢ	XWA2B	Spring, φ 2 (10)
N62	SMQ4260	(1)
N63	SMQ4258	(3)
N64	SMQT1269	(5)
N65	SMQ3914	(2)
N66	SMQ4256	(1)
N67	SMQ4254	(1)
RETAINING RINGS		
N70	XUC3FT	Type E, φ 3 (1)
N71	XUC2FT	Type E, φ 2 (1)
N72	XUC15FT	Type E, φ 1.5 (2)


N51
N50
110
101
Erase Head
100
R/P Head
102
103
N60
102
N52
104
N53
105
108
106
107
109
114
115
N52
113
(S412)
112
N54
117
A
119
N56
N56
120
121
N55
N55
B
116
N55
118
N71
124
N55
N61
N61
N57
N63
N61
127
126
Play
125
N55
N70
N61
N55
N52
122
N61
N55
N62
123
N61
128
N54
N55
129
A
125
N55
130
Pause
N64
137
136
N66
161
N64
169
138
N65
131
N52
140
N65
N55
139
N67
132
162
141
143
142
163
N55
133
142
N58
144
145
147
148
164
146
N55
144
134
149
135
N72
N61
N61
N72
N55
165
151
N55
150
166
B
N61
N55
154
N61
167
154
N55
rew
125
152
155
f.f.
125
153
N54
N54
168
N64
156
N64
157
N63
158
159
160
N63

SCHEMATIC DIAGRAM Ⓐ

(This schematic diagram may be modified at any time the development of new technology.)

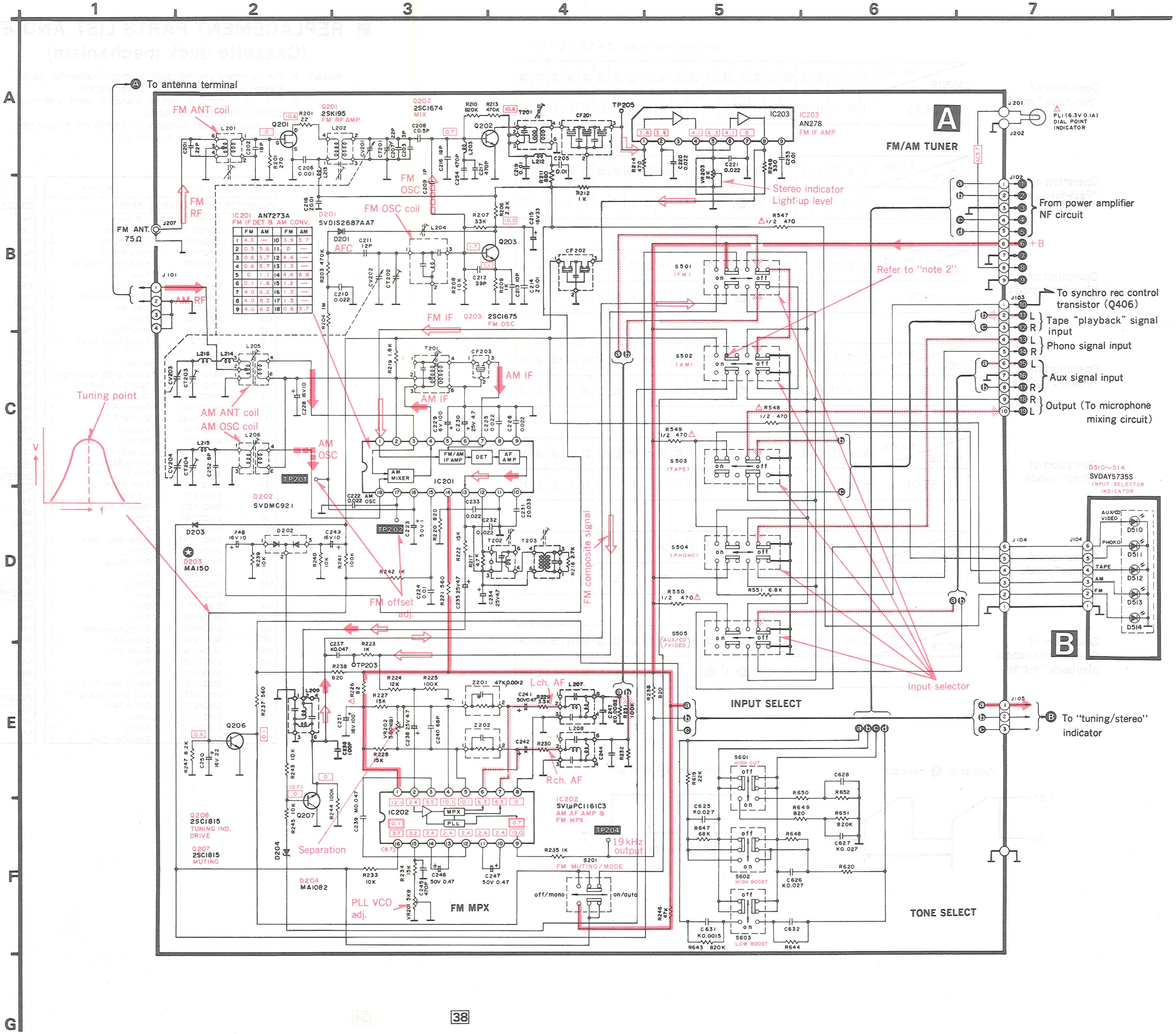
* The part No. of transistors, IC and diodes mentioned in the schematic diagram stand for production part No. Regarding the part No. with ✪ mark, the production part No. are different from the replacement part No. Therefore, when placing an order for replacement parts, please use the part No. in the replacement parts list.

Notes 1.

1. **S201** : FM muting/mode switch in "**on/auto**" position.
   (on/auto ↔ off/mono)
2. **S401** : Tape deck "**record**" switch.
3. **S402** : Tape deck "**rewind**" switch.
4. **S403** : Tape deck "**fast-forward**" switch.
5. **S404** : Tape deck "**playback**" switch.
6. **S405** : Tape deck "**stop**" switch.
7. **S406** : Tape deck "**pause**" switch.
8. **S407** : Tape deck "**recording mute**" switch.
9. **S408** : Tape selector switch in "**Metal**" position.
   (normal ↔ CrO_2 ↔ Metal)
10. **S409** : Dolby noise-reduction switch in "**out**" position.
    (out ↔ in)
11. **S410** : Tape deck "**timer**" switch in "**play**" position.
    (rec ↔ off ↔ play)
12. **S411** : Tape deck Eject switch in cassette holder "**open or close**" position.
13. **S412** : Tape deck Record inhibit switch in "**playback**" position.
14. **S501** ~ **S505** : Input selector switch in "**tape**" position.
    (S501 : FM, S502 : AM, S503 : tape, S504 : phono, S505 : aux/CD/video)
15. **S601** : High cut switch in "**off**" position. (off ↔ on)
16. **S602** : High boost switch in "**off**" position. (off ↔ on)
17. **S603** : Low boost switch in "**off**" position. (off ↔ on)
18. **S701** : Power switch in "**on**" position.
19. Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard.
    Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.
    * Figures in ☐ stand for DC voltage in FM mono signal reception mode and AF circuit no-signal mode.
    * Figures in ▭ stand for DC voltage in FM stereo signal reception mode.
    * Figures in ( ) stand for DC voltage in FM (no signal) muting to on mode.
    * Figures in < > stand for DV voltage in AM signal reception mode.
    * Figures in ⌜ ⌟ stand for DC voltage in AF muting circuit operation (not output).
    * Figures in [ ] stand for DC voltage in TPS circuit operation.
    * Figures in ● stand for DC voltage in high (6V) or low (0V).
    * Figures in ⧄ stand for DC voltage in high (5V) or low (0V).
20. Signal lines
    ⇨/▭▭▭▷ FM signal ➡/■■■➡ AM signal
    ▒ Audio frequency signal or playback signal
    ▬ Positive (+B) voltage lines
    - - -➤ Record signal ▨▷ Microphone signal
21. Important safety notice:
    Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

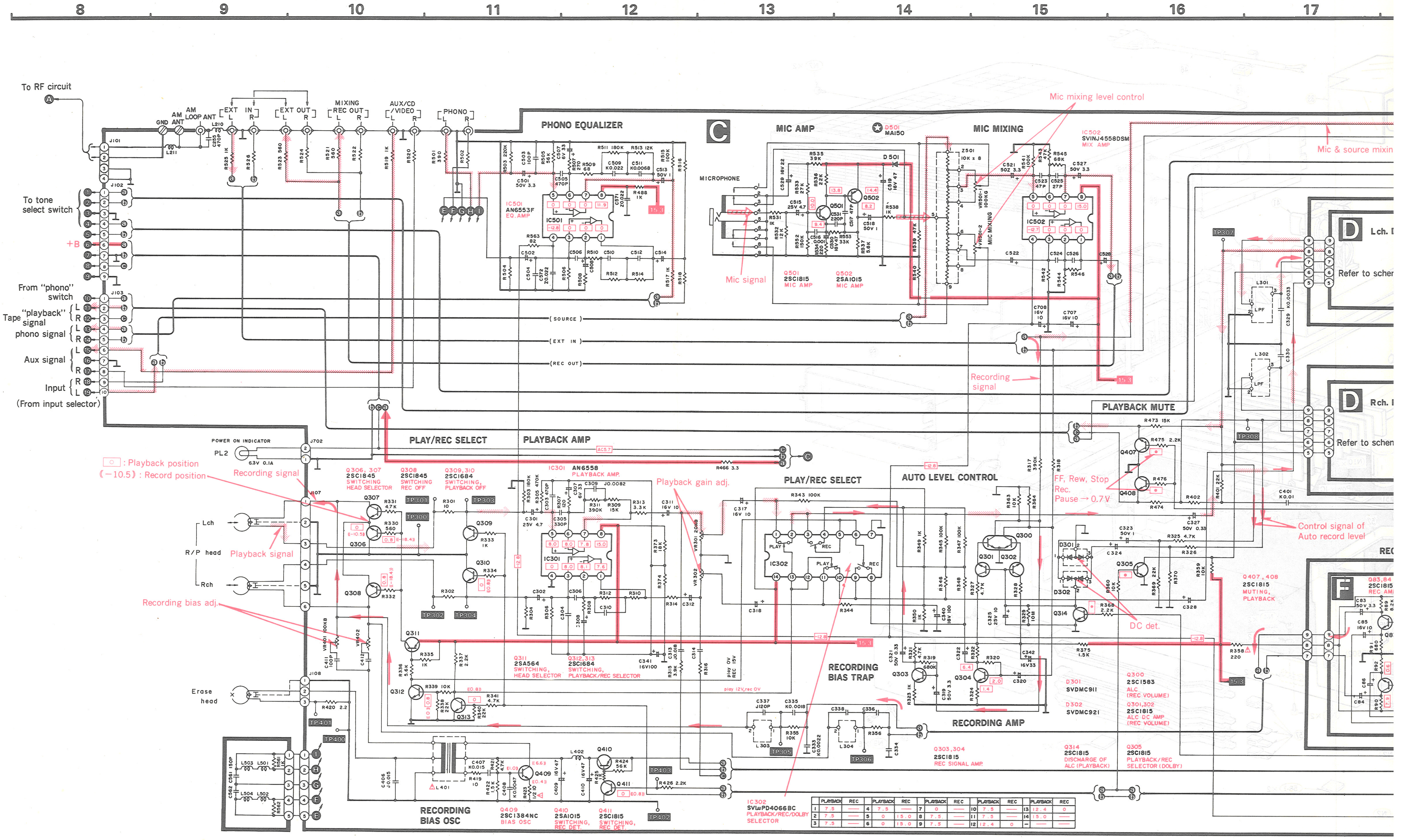
Note 2:

Muting switch part. When switch is turned on it is positioned as shown only for moment. Usually, it is not connected to the circuit.

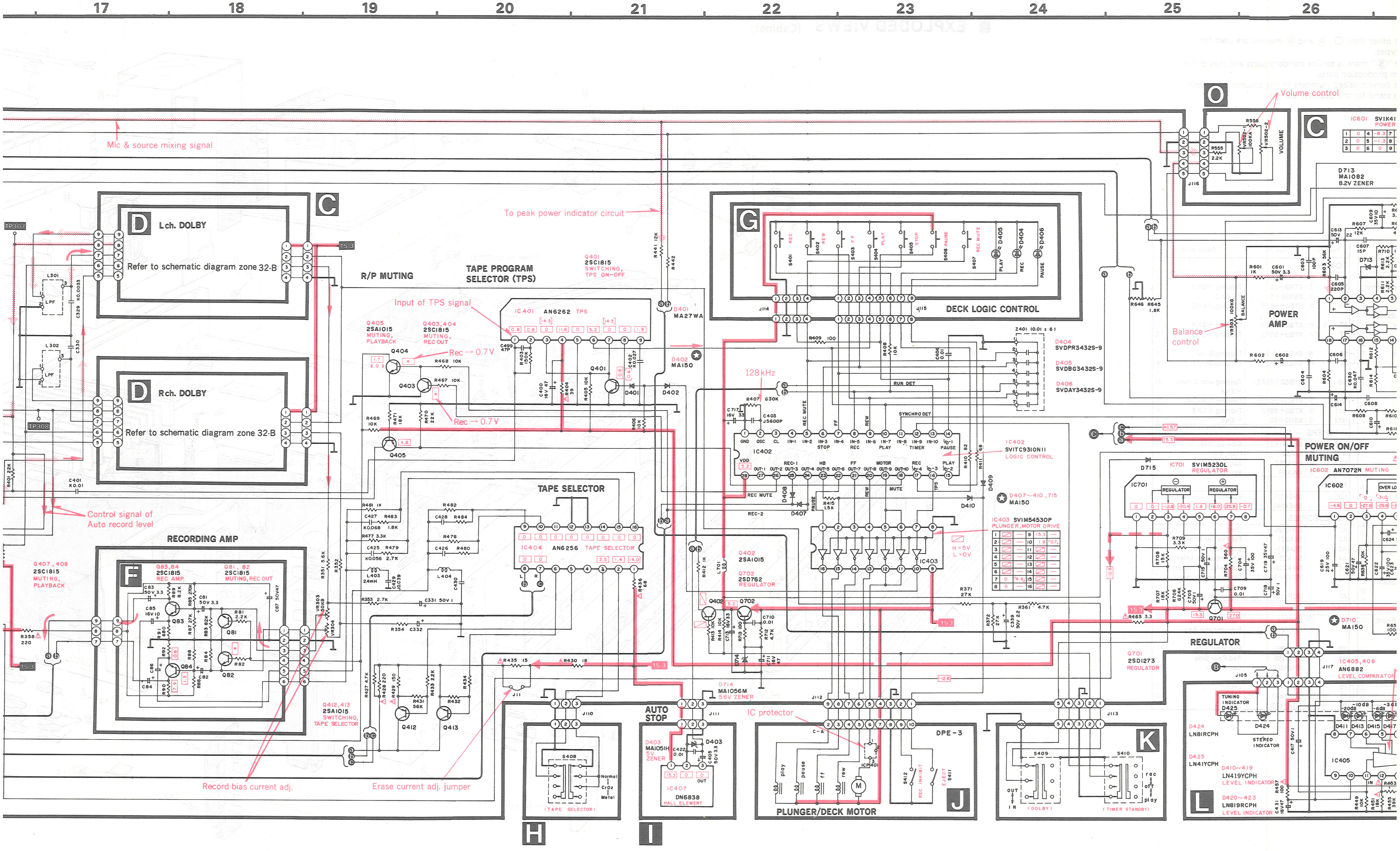

1
2
3
4
5
6
7
A
B
C
D
E
F
G
Ⓐ To antenna terminal
A
FM/AM TUNER
FM ANT coil
Q201 2SK195 FM RF AMP.
Q202 2SC1674 MIX
IC203 AN278 FM IF AMP
TP205
T201
CF201
PL1 (6.3V 0.1A) DIAL POINT INDICATOR
J201
J202
FM RF
FM ANT. 75Ω
J207
FM OSC
FM OSC coil
D201 SVD1S2687AA7
D201 AFC
Q203
Stereo indicator Light-up level
R547 1/2 470
J102
From power amplifier NF circuit
+B
Refer to "note 2"
J103
To synchro rec control transistor (Q406)
Tape "playback" signal input
Phono signal input
Aux signal input
Output (To microphone mixing circuit)
J101
AM RF
FM IF
Q203 2SC1675 FM OSC
CF202
S501 (FM)
S502 (AM)
S503 (TAPE)
S504 (PHONO)
S505 (AUX/CD/VIDEO)
R548 1/2 470
R549 1/2 470
R550 1/2 470
R551 6.8K
T201
CF203
AM IF
Tuning point
AM ANT coil
AM OSC coil
AM OSC
TP201
IC201
FM/AM IF AMP
DET
AF AMP
AM MIXER
D202 SVDMC921
D203
D203 MA150
TP202
FM composite signal
FM offset adj.
T202
T203
D510~514 SVDAY5735S INPUT SELECTOR INDICATOR
AUX/CD VIDEO
PHONO
TAPE
AM
FM
D510
D511
D512
D513
D514
J104
B
TP203
Z201
Lch. AF
L207
L208
Z202
Rch. AF
INPUT SELECT
Input selector
J105
Ⓑ To "tuning/stereo" indicator
Q206
Q206 2SC1815 TUNING IND. DRIVE
Q207
Q207 2SC1815 MUTING
L209
Separation
IC202
MPX
PLL
IC202 SVIμPC1161C3 AM AF AMP & FM MPX
TP204
19 kHz output
S201 FM MUTING/MODE
off/mono
on/auto
D204
D204 MA1082
PLL VCO adj.
FM MPX
S601 HIGH CUT
S602 HIGH BOOST
S603 LOW BOOST
TONE SELECT

IC201 AN7273A
FM IF DET & AM CONV.

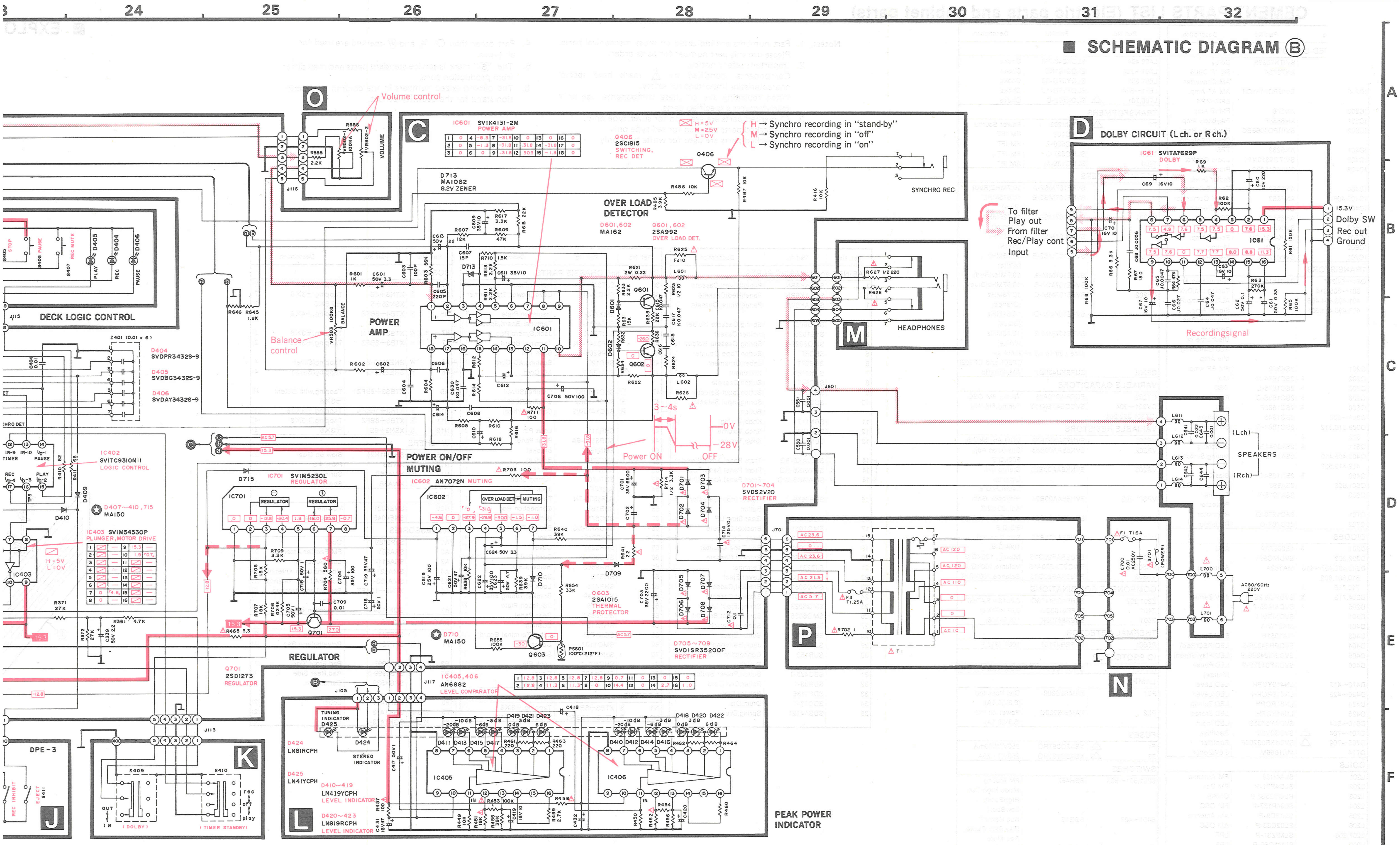
	FM	AM		FM	AM
1	4.3	—	10	3.9	5.7
2	0.5	5.6	11	0	—
3	0.6	5.7	12	4.4	—
4	0.6	5.7	13	1.3	—
5	0	1.1	14	4.4	6.6
6	0.1	1.6	15	1.2	—
7	4.0	6.2	16	1.5	—
8	4.0	6.2	17	1.5	—
9	4.0	6.2	18	0.6	5.7


8
9
10
11
12
13
14
15
16
17
To RF circuit
GND
AM ANT
AM LOOP ANT
EXT IN
EXT OUT
MIXING REC OUT
AUX/CD /VIDEO
PHONO
J101
J102
J103
To tone select switch
+B
From "phono" switch
Tape "playback" signal
phono signal
Aux signal
Input
(From input selector)
PHONO EQUALIZER
IC501 AN6553F EQ. AMP
C
MIC AMP
D501 MA150
MICROPHONE
Mic signal
Q501 2SC1815 MIC AMP
Q502 2SA1015 MIC AMP
MIC MIXING
Mic mixing level control
IC502 SVINJ4558DSM MIX AMP
Mic & source mixin
VR501-1 100KG
VR501-2 MIC MIXING
(SOURCE)
(EXT IN)
(REC OUT)
Recording signal
D
Lch.
Refer to schem
D
Rch.
Refer to schem
PLAYBACK MUTE
TP307
TP308
POWER ON INDICATOR
PL2 6.3V 0.1A
J702
○ : Playback position
(−10.5) : Record position
Recording signal
PLAY/REC SELECT
PLAYBACK AMP
IC301 AN6558 PLAYBACK AMP
Q306, 307 2SC1845 SWITCHING HEAD SELECTOR
Q308 2SC1845 SWITCHING REC OFF
Q309, 310 2SC1684 SWITCHING, PLAYBACK OFF
Playback gain adj.
PLAY/REC SELECT
AUTO LEVEL CONTROL
FF, Rew, Stop Rec. Pause → 0.7V
Control signal of Auto record level
Lch
R/P head
Rch
Playback signal
Recording bias adj.
VR401 100KB
VR402
VR301 20KB
VR302
IC302
Q311 2SA564 SWITCHING, HEAD SELECTOR
Q312, 313 2SC1684 SWITCHING, PLAYBACK/REC SELECTOR
RECORDING BIAS TRAP
RECORDING AMP
DC det.
D301 SVDMC911
D302 SVDMC921
Q300 2SC1583 ALC (REC VOLUME)
Q301, 302 2SC1815 ALC DC AMP (REC VOLUME)
Q407, 408 2SC1815 MUTING, PLAYBACK
F
Q83, 84 2SC1815 REC AMP
Erase head
TP401
TP400
TP402
TP403
TP300
TP301
TP302
TP303
TP304
TP305
TP306
RECORDING BIAS OSC
Q409 2SC1384NC BIAS OSC
Q410 2SA1015 SWITCHING, REC DET.
Q411 2SC1815 SWITCHING, REC DET.
IC302 SVμPD4066BC PLAYBACK/REC/DOLBY SELECTOR
Q303, 304 2SC1815 REC SIGNAL AMP.
Q314 2SC1815 DISCHARGE OF ALC (PLAYBACK)
Q305 2SC1815 PLAYBACK/REC SELECTOR (DOLBY)
play 12V, rec 0V

	PLAYBACK	REC		PLAYBACK	REC		PLAYBACK	REC		PLAYBACK	REC		PLAYBACK	REC
1	7.5	—	4	7.5	—	7	0	—	10	7.5	—	13	12.4	0
2	7.5	—	5	0	15.0	8	7.5	—	11	7.5	—	14	15.0	—
3	7.5	—	6	0	15.0	9	7.5	—	12	12.4	0	–	—	—


17
18
19
20
21
22
23
24
25
26
Mic & source mixing signal
To peak power indicator circuit
Volume control
VOLUME
R556
R555 2.2K
VR502-1 100KA
VR502-2
J116
O
C
IC601 SVIK41 POWER
D713 MA1082 8.2V ZENER
D
Lch. DOLBY
Refer to schematic diagram zone 32-B
D
Rch. DOLBY
Refer to schematic diagram zone 32-B
TP307
TP308
L301
L302
LPF
C329 K0.0033
C330
R401 22K
C401 K0.01
Control signal of Auto record level
R/P MUTING
TAPE PROGRAM SELECTOR (TPS)
Q401 2SC1815 SWITCHING, TPS ON-OFF
Input of TPS signal
IC401 AN6262 TPS
Q405 2SA1015 MUTING, PLAYBACK
Q403,404 2SC1815 MUTING, REC OUT
Q404
Q403
Q405
Rec → 0.7V
Rec → 0.7V
R468 10K
R467 10K
R469 10K
R471 18K
R470 22K
C499 47P
R403 150K
C400 16V 47
R404 39
R405 10K
R406 10K
C402 K0.027
Q401
D401
D402
D401 MA27WA
D402 MA150
R441 12K
R442
G
S401 REC
S402 REW
S403 FF
S404 PLAY
S405 STOP
S406 PAUSE
S407 REC MUTE
D405 PLAY
D404 REC
D406 PAUSE
J114
J115
DECK LOGIC CONTROL
Z401 (0.01 × 6)
D404 SVDPR3432S-9
D405 SVDBG3432S-9
D406 SVDAY3432S-9
R409 100
R408 10K
C406 0.01
128kHz
R407 630K
C717 16V 33
C403 J5600P
RUN DET
SYNCHRO DET
REC MUTE
FF
REW
IC402
GND OSC CL IN-1 IN-2 IN-3 STOP IN-4 IN-5 REC IN-6 IN-7 PLAY IN-8 IN-9 TIMER IN-10 I/o-1 PAUSE
VDD OUT-1 OUT-2 OUT-3 OUT-4 OUT-5 OUT-6 OUT-7 OUT-8 OUT-9 OUT-10 I/o-4 I/o-3 I/o-2
REC-1 HB FF MOTOR REC PLAY
IC402 SVITC9310N11 LOGIC CONTROL
R410 82
R411 68
D409
D407~410, 715 MA150
REC MUTE
REC-2
D408
D407
PAUSE
R415 1.5K
REW
MUTE
TPS
D410
IC403 SVIM54530P PLUNGER, MOTOR DRIVE
H=5V L=0V
IC403
TAPE SELECTOR
IC404 AN6256 TAPE SELECTOR
R481 1K
C427 K0.068
R483 1.8K
R477 3.3K
C425 K0.056
R479 2.7K
R482
C428
R484
R478
C426
R480
L403 24mH
C429 J0039
L404
C430
R353 2.7K
C331 50V 1
R354 C332
R351 5.6K
R352
VR303 500kB
VR304
RECORDING AMP
Q407, 408 2SC1815 MUTING, PLAYBACK
F
Q83,84 2SC1815 REC AMP.
Q81, 82 2SC1815 MUTING, REC OUT
C83 50V 3.3
R89 8.2K
R85 270K
C81 50V 3.3
C85 16V 10
Q83
R87 27K
R83 82K
Q81
R81 2.2K
C87 50V47
R91 680
R92
R88
R84
Q84
Q82
R82
C86
C82
C84
R90
R86
R358 220
Record bias current adj.
Erase current adj. jumper
R435 15
R430 18
J11
Q412, 413 2SA1015 SWITCHING, TAPE SELECTOR
R427 4.7K
R428 220
R429 150
R431 56K
R433 22K
R432
R434
Q412
Q413
R436 68
Q402 2SA1015
Q702 2SD762 REGULATOR
R412 1K
L701
Q402
Q702
R413 10K
R414 10K
C713 50V 3.3
R713 100
R712 4.7K
C710 0.01
C711 16V 47
D714
D714 MA1056M 5.6V ZENER
R371 27K
R361 4.7K
R372 27K
C373 50V 2.2
C139 50V 1
J110
J111
J112
J113
AUTO STOP
IC protector
S408
Normal
CrO2
Metal
TAPE SELECTOR
H
I
D403 MA1051H 5V ZENER
C422 0.01
D403
C405 50V3.3
OUT
IC407 DN6838 HALL ELEMENT
C-A
DPE-3
play
pause
ff
rew
M
ICP401
S412 REC INHIBIT
S411 EJECT
J
PLUNGER/DECK MOTOR
S409
S410
OUT
IN
DOLBY
rec
off
play
TIMER STANDBY
K
POWER AMP
Balance control
VR503 100KB BALANCE
R646 R645 1.8K
R601 1K
C601 50V 3.3
C603 100
C613 50V
R607 12K
C609 35V 10
C607 15P
R710
D713
R613 56K
C605 220P
R611 2.2K
R612
C606
R602
C602
C604
R604
C630 K0.047
R614
C614
R608
C608
C610
POWER ON/OFF MUTING
IC602 AN7072N MUTING
IC602
OVER LOAD
D715
IC701 SVIM5230L REGULATOR
IC701
REGULATOR
R709 3.3K
R708 15K
C715 50V 1
R704 560
C704 35V 100
C719 35V 47
R707 18K
R706 824K
C705 50V 1
C709 0.01
C718 50V 1
R705
C619 25V 100
C621 50V 47
C622 35V 100
C624
R465 3.3
Q701
Q701 2SD1273 REGULATOR
D710 MA150
REGULATOR
J117
IC405, 406 AN6882 LEVEL COMPARATOR
J105
TUNING INDICATOR D425
D424
STEREO INDICATOR
D424 LN81RCPH
D425 LN41YCPH
D410~419 LN419YCPH LEVEL INDICATOR
D420~423 LN819RCPH LEVEL INDICATOR
-10dB
-20dB
6dB
-3dB
D411 D413 D415 D417
C417 50V 1
IC405
C431 16V 47
R457 100
R449 10K
R451 18K
R455 39K
R453
L
15.3
12.8

■ SCHEMATIC DIAGRAM Ⓑ


24
25
26
27
28
29
30
31
32
A
B
C
D
E
F
O
Volume control
J116
R556
R555 2.2K
VR502-1 100KA
VR502-2
VOLUME
C
IC601 SVIK4131-2M POWER AMP
Q406 2SC1815 SWITCHING, REC DET
H=5V
M=25V
L=0V
H → Synchro recording in "stand-by"
M → Synchro recording in "off"
L → Synchro recording in "on"
Q406
R486 10K
R487 10K
R416 10K
SYNCHRO REC
D713 MA1082 8.2V ZENER
OVER LOAD DETECTOR
D601,602 MA162
Q601,602 2SA992 OVER LOAD DET.
R617 3.3K
R615 22K
R607 12K
R609 47K
C609 35V 10
C613 50V 22
C607 15P
R710 1.5K
D713
R613 2.2K
R611 2.2K
C611 35V10
R601 1K
C601 50V 3.3
C603
C605 220P
POWER AMP
IC601
R625
R621 2W 0.22
L601
Q601
Q602
D601
D602
R626
L602
C706 50V 100
R602
C602
C606
C604
C608
C612
C614
R608
R610
R618
R616
R711 100
R646
R645 1.8K
Balance control
VR503 100KB BALANCE
DECK LOGIC CONTROL
J115
STOP
PAUSE
REC MUTE
D405
D404
D406
PLAY
REC
PAUSE
S405
S406
S407
Z401 (0.01 × 6)
D404 SVDPR3432S-9
D405 SVDBG3432S-9
D406 SVDAY3432S-9
IC402 SVITC9310N11 LOGIC CONTROL
D407~410,715 MA150
IC403 SVIM54530P PLUNGER, MOTOR DRIVE
H=5V
L=0V
D409
D410
IC403
R410
R411
R371 27K
R361 4.7K
R372 27K
C339 50V 2.2
3~4s
0V
-28V
Power ON
OFF
POWER ON/OFF MUTING
R703 100
D715
IC701 SVIM5230L REGULATOR
IC701
REGULATOR
IC602 AN7072N MUTING
IC602
OVER LOAD DET
MUTING
R640
D701~704 SVDS2V20 RECTIFIER
R709 3.3K
R708 15K
R707 18K
R706 6.8K
R705 3.3K
R704 560
C704
C710
C709 0.01
C705
C715 50V 1
C718 50V 1
C719 35V47
Q701
R465 3.3
REGULATOR
Q701 2SD1273 REGULATOR
C619 25V 100
C621
C622
C624 50V 33
R654 33K
R639 39K
D710
D709
Q603 2SA1015 THERMAL PROTECTOR
D710 MA150
R655 100K
Q603
PS601 100°C(212°F)
C701 35V 6800
C702
C703 35V 2200
R714 1/2 3.3K
D701
D702
D703
D704
D705
D706
D707
D708
C714 125V0.1
C712
D705~709 SVD1SR35200F RECTIFIER
J701
M
R627 1/2 220
R628
HEADPHONES
J601
C651 0.001
C650 0.001
L611
L612
L613
L614
C641
C642
C643
C644
(Lch)
SPEAKERS
(Rch)
D
DOLBY CIRCUIT (L ch. or R ch.)
IC61 SVITA7629P DOLBY
R69 1K
C69 16V10
C60 10V 220
R62 100K
IC61
To filter
Play out
From filter
Rec/Play cont
Input
15.3V
Dolby SW
Rec out
Ground
R61 150K
R66 3.3K
R67 180
R68 100K
R63 270K
R65 100K
C67 16V 10
C68
C65 J0.0047
C66 J0.027
C64 J0.047
C63 16V 10
C62 50V 0.1
C61 50V 0.33
Recordingsignal
P
F3 T1.25A
R702 1
T1
N
F1 T1.6A
C700 0.01 AC250V
S701 (POWER)
L700
L701
AC50/60Hz 220V
J117
IC405,406 AN6882 LEVEL COMPARATOR
J105
TUNING INDICATOR
D425
D424
STEREO INDICATOR
D424 LN81RCPH
D425 LN41YCPH
D410~419 LN419YCPH LEVEL INDICATOR
D420~423 LN819RCPH LEVEL INDICATOR
C417 50V 1
C418
D419 D421 D423
D418 D420 D422
-20dB
-10dB
-6dB
-3dB
0dB
3dB
6dB
D411 D413 D415 D417
D410 D412 D414 D416
R461 220
R463 220
R462
R464
IC405
IC406
R453 100K
R458
R454
R457
R449 10K
R451
R455
R459 2.7K
R450
R452
R456
R460
C419
C420
C431
C432
L
PEAK POWER INDICATOR
J113
DPE-3
K
S409
S410
OUT
IN
(DOLBY)
rec
off
play
(TIMER STANDBY)
J
REC INHIBIT
EJECT S411

REPLACEMENT PARTS LIST (Electric parts and cabinet parts)

Ref. No.	Part No.	Description
INTEGRATED CIRCUITS		
IC61(×2)	SVITA7629P	Dolby
IC201	AN7273A	FM IF Det.& AM Converter.
IC202	SVIUPC1161C3	AM AF Amp. &FM MPX
IC203	AN278	FM IF Amp.
IC301	AN6558F	Playback Amp.
IC302	SVIUPD4066BC	Playback/Rec/ Dolby/ Selector
IC401	AN6262	TPS
IC402	SVITC9310N11	Logic Control
IC403	SVIM54530P	Plunger, Motor Drive
IC404	AN6252	Tape Selector
IC405,406	AN6882	Level Comprator
IC407	DN6838	Hall Element
IC501	AN6558F	EQ Amp.
IC502	SVINJ4558DSM	Mix Amp.
IC601	SVIK4131-2M	Power Amp.
IC602	AN7072N	Muting
IC701	SVIM5230L	Regulator
TRANSISTORS		
Q81~84,207 301~305,314 401,403,404,406 407,408,411,501	2SC1815-Y	Muting,Rec Amp., Tuning Ind.Drive, ALC DCAmp.Rec Signal Amp., Playback/Rec Selector Discharge of ALC,Switching, Mic Amp.
Q201	2SK359	FM RF Amp.
Q202 Ⓢ	2SC1674-M	Mix
Q203 Ⓢ	2SC1675-L	OSC
Q206 Ⓢ	2SC1685-Q	Rec Out
Q300 Ⓢ	2SC1583F	ALC
Q306~308	2SC1845	Switching
Q309,310,312 313 Ⓢ	2SC1684-Q	Switching
Q311 Ⓢ	2SA564AR	Switching
Q402,405,410 412,413,502	2SA1015-Y	Muting,Switching
Q409 Ⓢ	2SC1384Q	Bias Osc
Q601,602	2SA992	Over Load Det.
Q603	2SA1015-Y	Therma/ Protector
Q701	2SD1273-Q	Regulator
Q702	2SD762-O	Regulator
DIODES		
D201 Ⓢ	1S2687AA	AFC
D202,302	SVDMC921	
D203,402,407~410, 510,601,602, 710,715 Ⓢ	MA162A	Switching.
D204,713 Ⓢ	SVDRD8.2EB	8.2V,Zemer
D205 Ⓢ	SVDMA26-2	
D301	SVDMC911	
D401	MA27W-A	
D403	MA1051H	5.1V Zener
D404	SVDPR3432S-9	LED,REC(Red)
D405	SVDBG3432S-9	LED,Play(Green)
D406	SVDAY3432S-9	LED,Pause (Yellow)
D410~419	LN419YCPH	LED,Level
D420~423	LN819RCPH	LED,Level
D424	LN81RCPH	LED,Tuning
D425	LN41YCPH	LED,Stereo
D510~514	SVDAY5735S	LED,Input
D701~704 ⚠	SVDS2V20	Rectifier
D705~709 ⚠	SVD1SR35200F	Rectifier
D714	MA1056M	5.6V,Zener
COILS		
L201	SLA4N39	FM Antenna
L202	SLD4P71-P	FM Det.
L203	RLQY25S5-0	Choke
L204	SL04P137-P	FM OSC
L205	SLA2C9-P	AM Antenna
L206	SL02C33-P	AM OSC
L207,208	SLMIZ31-P	LPF
L209	SLM1C69-P	LPF
L210,211 212~215	SLQZ12G1-D	Choke
L216	SLQY15G5-0	Choke
L301,302	SLM1Z31-P	LPF
L303,304	SLM1C73	Bias Trap
L401	SL09C1	Bias OSC
L402,701	SLQX181-1D	Choke

Ref. No.	Part No.	Description
COILS		
L403,404	SLQX242-1M	Choke
L501~504	ELQS181KB	Choke
L601,602	SLQY07G-30	Choke
L611~614	SLQY15G-10	Choke
L700,701 ⚠	SLQX400-D	Choke
TRANSFORMERS		
T1 ⚠	SLT5M295	Power Source
T201	SLI4C109	FM IFT
T202	SLI4C535-Z	FM IFT
T203	SLI4C537-Z	FM IFT
T204	SLI2C139-M	AM IFT
CERAMIC FILTERS		
CF201	SVFE107MS2-A	10.7MHZ(Red)
	SVFE107MS2-B	10.675MHZ (Blue)
	SVFE107MS2-C	10.725MHz (Orange)
	SVFE107MS2-D	10.65MHz (Black)
	SVFE107MS2-E	10.75MHz (White)
CF202	SVFE107MM-A	10.7MHz(Red)
	SVFE107MM-B	10.67MHz(Blue)
	SVFE107MM-C	10.73MHz (Orange)
	SVFE107MM-D	10.64MHz (Black)
	SVFE107MM-E	10.76MHz (White)
	(Use pair ranks as same as	CF201 and CF202)
CF203	SUFSFU450B3	AM 450kHz
VARIABLE CAPACITORS		
CT202	ECRHA010A11	Trimer,FM OSC
CV201~204 (CT201,203,204)	SVCCB41EX113	Tuning,FM/AM
VARIABLE RESISTORS		
VR201	EVN75AA00B53	VCO Adj.,5kΩ(B)
VR202	EVN58AA00B55	Sparation Adj., 500kΩ(B)
VR203	EVNK6AA00B23	Stereo Ind. Light up Level,2kΩ(B)
VR301,302	EVN58AA00B24	Playback Gain Adj.,20kΩ(B)
VR303,304	EVN58AA00B54	Rec Current Adj., 50kΩ(B)
VR401,402	EVN58AA00B15	Rec Bias Adj., 100kΩ(B)
VR501	EVU9RAF20G15	Mixing, 100kΩ(G)
VR502	EWCSTAF20A15	Volume,100kΩ(A)
VR503	EVU9KAF20G15	Balance,100kΩ(G)
COMPONENT COMBINATIONS		
Z201,202	EXRP122K473C	0.0012μF,47kΩ
Z401	EXFP6103ZW	0.01μF(×6)
Z501	EXBS88103K	10kΩ(×8)
THERMAL DETECTOR		
PS601	SRPBB47101	100℃(212°F)
IC PROTECTOR		
ICP401	QRUF10WH	0.2Ω,400mA
LAMPS		
PL1	XAMS2S200	Dial Point Ind., (6.3V,0.1A)
PL2	XAMSIS250C	Power on Ind., (6.3V,0.1A)
FUSES		
F1 ⚠	XBA2C08TRO	250V,T800mA
F3 ⚠	XBA2C12TRO	250V,T1.25A
SWITCHES		
S201,601~603	SSH467	FM Muting/ Mode.High Cut, HighBoost, LowBoost
S401~407	SSG13	Rec,Rew,FF, Play,Stop,Pause, Rec Mute
S408	SSS73	Tope Selector
S409	SSS71	Dolby NR
S410	SSS75	Timer
S411	SSP35	Eject
S412	SMQ4150	Rec Inhigit
S501~505	SSH553	Input Selector
S701 ⚠	SSH1071	Power Source.

Notes:

1. Part numbers are indicated on most mechanical parts. Please use this part number for parts order.
2. Important safety notice: Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. ○-marked parts are are used for silver type only. Ⓡ-marked parts are used for red type only. Ⓦ-marked parts are used for white type only.
4. Part other than ○, Ⓡ and Ⓦ-marked are used for all types.
5. The "Ⓢ" mark is service standard parts and may differ from production parts.
6. The parenthesized numbers in the column of description stand for the quantity per set.

Ref. No.	Part No.	Description
CABINET and CHASSIS PARTS		
1 ○	SGXAK6SN	Panel(Silver),Cassete (1)
1 Ⓡ	SGXAK6RN	Panel(Red)Cassete (1)
1 Ⓦ	SGXAK6WE	Panel(White),Cassete (1)
2	SMQ6037	Spring,Cassete Holder (1)
3	SYE1025	Holder,Casset (1)
4	SMQ6021-1	Spring Cassete Holder (2)
5	SBC577	Button,Tape Counter (1)
6	SGE677	Label,Ornament (1)
7	SGK1761	Ornament (1)
8	SBC567	Button,Cassete (1)
9	SBC573	Button,Input Selector (1)
10	SUS191-2	Spring,Input Selector Button (5)
11	SBN1171	Knob,Mixing (2)
12	SBN1083	Knob,Volume (1)
13	SBN1081	Knob,Tuning (1)
14 ○	SGWAK6-SG	Front Panel,Ass'y(Silver) (1)
14 Ⓡ	SGWAK6-RG	Front Panel,Ass'y(Red) (1)
14 Ⓦ	SGWAK6-WG	Front Panel,Ass'y(White) (1)
15	SHR9659-1	Holder,Input Selector Button (5)
16	QDG1102	Gear,Slow UP (2)
17	SMQ1011	Bracket,Cassete (1)
18	SMQ2019	Tape Counter (1)
19	SMQ2021	Belt,Tape Counter (1)
20	SMQ3053	Bracket,Cassete (1)
21	SJT231	Terminal (2)
22	SMQ4003-1	Lever,Eject (1)
23	SMQ3051-1	Bracket,Cassete (1)
24	SMQ3057-1	Bracket,Cassete (1)
25	SMQ6029	Spring,Eject Lever (1)
26	SMQ6035	Spring,Eject Bracket (1)
27	SGK6035	Speacer,Switch (2)
28	SBC575	Button,Eject (1)
29	SJJ63E	Jack,Headphone (1)
30	SUB153	Connection Rod,Power Switch (1)
31	SBC425-1	Button,Power Switch (1)
32	SDR33-1	Roller,Dial Cord (7)
33	SDP1185	Pointer,Dial (1)
34	SDD37-1	Drum,Dial (1)
35	SDSA4121	Spring,Drum (1)

Ref. No.	Part No.	Description
CABINET and CHASSIS PARTS		
36	SJT347	Holder,Fuse (6)
38	SMC1111	Cover,Power Transformer (1)
39	SMX773-1	Insulation Plate (1)
41	SJF4431-1	Terminal Board,Speaker (1)
42	SJJ73AK	Jack,Syncro Rec (1)
43	SJF3247-1N	Terminal Board (1)
44	SJP9205-2	Short Pin (2)
45	SHR127	Bushing,AC Cord (1)
46 ⚠	SJA138-3	AC Cord (1)
47 ○	SKC1410S2	Cabinet(Silver) (1)
47 Ⓡ	SKC1410R2	Cabinet(Red) (1)
47 Ⓦ	SKC1410W2	Cabinet(White) (1)
48	SHR411	Lock Pin (2)
49	SGP3690-6A	Rear Panel (1)
50	SMN1887	Bracket (1)
51	SUG83-3	Bracket (1)
52	SMN1869-1	Bracket (1)
53	SDT8107	Tuning Shaft (1)
54	SJJ63F	Jack.Mic (1)
55	SJF8031-7N	Terminal Boad (1)
56	SUB163	Connection Rod (4)
57	SBC571	Button,Switch (4)
58	SKUAK6-SG	Bottom Board (1)
58-1	〔SHS2481	Foot (4)
59	SHR5257	Cover (1)
60	SDZ051-2	Cord,Dial (1.3m)
61	SHR9663	Holder,LED (1)
62	SHE73	Spacer (2)
63	SHR415	Lock Pin (2)
64	SNE2099	Bracket,Tuning Shaft (1)
65	SMX789	Insulation Plate (2)
66	SGP3830	Rear Panel (1)
67	RHR110	Bushing (1)
68	SGK1795	Label(Terminal Board) (1)
69	SMC1103	Cover (1)
70	SJP9105	Socket (1)
71	SHR401-1	Look Pin (1)
72	SMC1105	Cover (1)
73	RJT202B	Terminal (1)
SCREWS		
N1 Ⓢ	XTB3+8BFN	Tapping,⊕3×8 (17)
N2 Ⓢ	XTV3+10BFN	Tapping,⊕3×10 (5)

Ref. No.	Part No.	Description
SCREWS		
N3 Ⓢ	XTN26+6B	Tapping,⊕2.6×6 (2)
N4 Ⓢ	XTN3+8B	Tapping,⊕3×8 (7)
N5 Ⓢ	XSN26+5	⊕2.6×5 (1)
N6 Ⓢ	XTB4+8BFZ	Tapping,⊕4×8 (4)
N7 Ⓢ○Ⓦ	XTB3+8BFN	Tapping,⊕3×8 (2)
N7 ⓈⓇ	XTB3+8BFZ	Tapping,⊕3×8 (2)
N8 ○Ⓦ	SNE2095-2	Tapping(Silver) (4)
N8 Ⓡ	SNE2095-3	Tapping(Black) (4)
N9	XTBS3+8BFZ1	Tapping,with Detent, ⊕3×8 (28)
N10 Ⓢ	XTB3+16BFN	Tapping,⊕3×16 (2)
N11 Ⓢ	XTB3+8BFZ	Tapping,⊕3×8 (4)
N12 Ⓢ	XSN3+6S	⊕3×6 (3)
WASHERS		
N15	SHW41K20	Slow up Gear (2)
N16 Ⓢ	XWG3	Plain, ϕ3 (7)
N17 Ⓢ	XWA26B	Spring, ϕ2.6 (1)
N18 Ⓢ	XWA3B	Spring, ϕ3 (3)
NUTS		
N20	SNE4021	Volume (1)
N21	SNE4045	Tuning Shaft (1)
ACCESSORIES		
A1	SJP2189	Cord (1)
A2	SSA901	FM Feeder Antenna (1)
A3	SSA611-1	Loop Antenna (1)
A4	SMA231	HolderB,Loop Antenna (1)
A5	SMA233-1	HolderA,Loop Antenna (1)
A6	XTN3+10AFZ	Screw,Loop Antenna Holder (2)
A7	SQF11841	Instruction Book. (1)
PACKING PARTS		
P1 ○	SPP723	Polythylene Bag (1)
P1 ⓇⓌ	SPP721	Polyethylene Bag (1)
P2	SPS3997	Pad,Front Side (1)
P3	SPS3999-3	Rad,Rear Side (1)
P4	SPG4539	Carton Box (1)
P5 ○only	SGK1411	Lebel (2)
P5 Ⓡonly	SGK1473	Lebel (2)
P5 Ⓦonly	SGK1473-2	Lebel (2)

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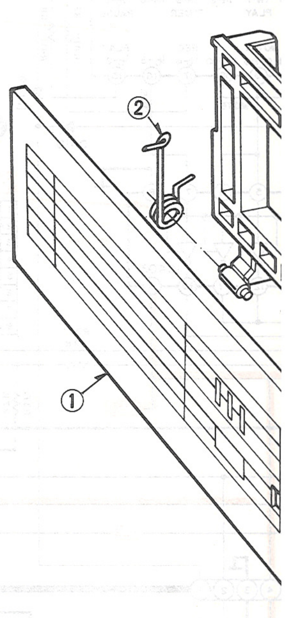

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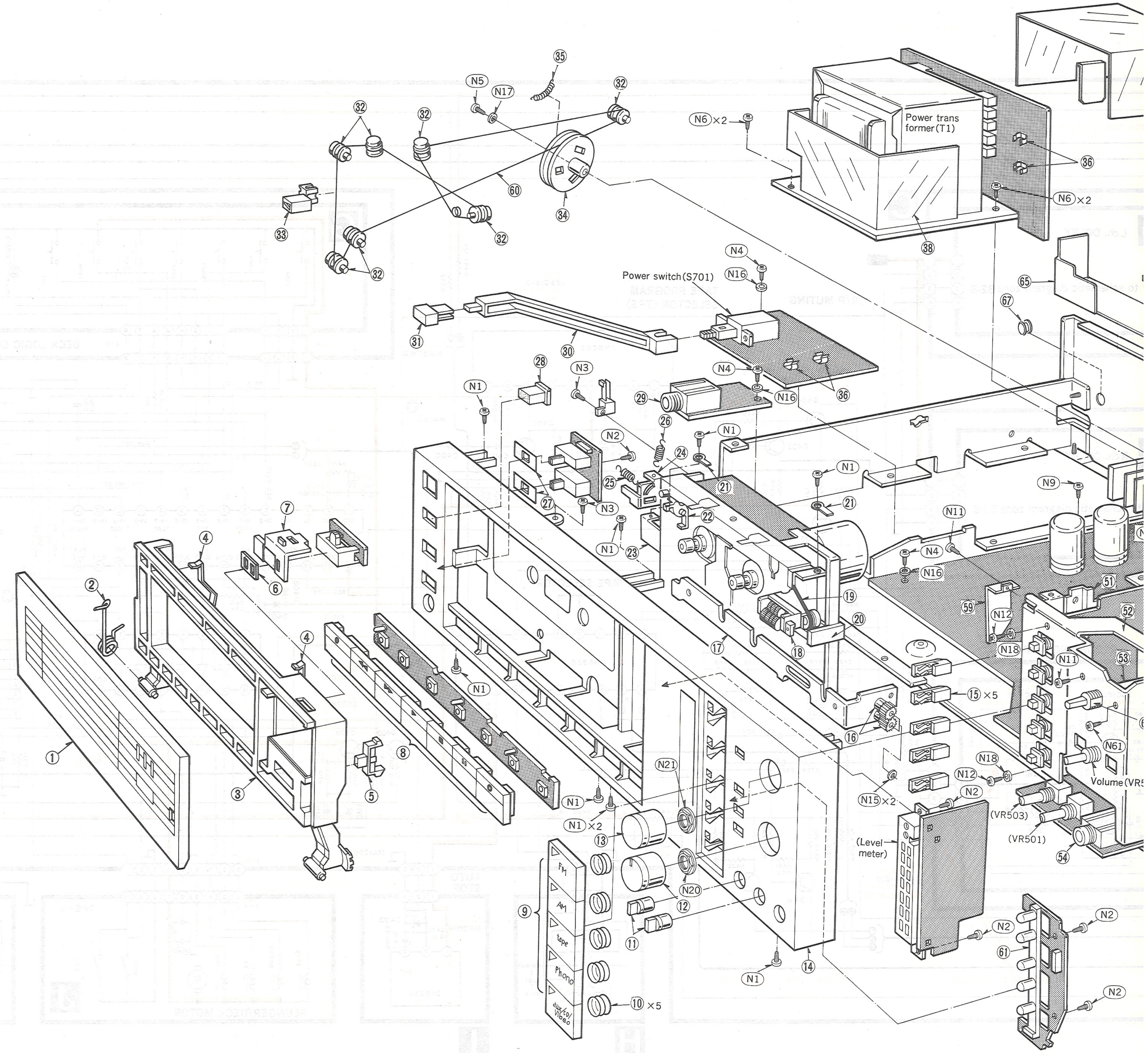
4. Part other than ○, Ⓡ and Ⓦ-marked are used for all types.
5. The "Ⓢ" mark is service standard parts and may differ from production parts.
6. The parenthesized numbers in the column of description stand for the quantity per set.

ef. No.	Part No.	Description
BINET and CHASSIS PARTS		
	SJT347	Holder,Fuse (6)
	SMC1111	Cover,Power Transformer (1)
	SMX773-1	Insulation Plate (1)
	SJF4431-1	Terminal Board,Speaker(1)
	SJJ73AK	Jack,Syncro Rec (1)
	SJF3247-1N	Terminal Board (1)
	SJP9205-2	Short Pin (2)
	SHR127	Bushing,AC Cord (1)
⚠	SJA138-3	AC Cord (1)
○	SKC1410S2	Cabinet(Silver) (1)
Ⓡ	SKC1410R2	Cabinet(Red) (1)
Ⓦ	SKC1410W2	Cabinet(White) (1)
	SHR411	Lock Pin (2)
	SGP3690-6A	Rear Panel (1)
	SMN1887	Bracket (1)
	SUG83-3	Bracket (1)
	SMN1869-1	Bracket (1)
	SDT8107	Tuning Shaft (1)
	SJJ63F	Jack.Mic (1)
	SJF8031-7N	Terminal Boad (1)
	SUB163	Connection Rod (4)
	SBC571	Button,Switch (4)
	SKUAK6-SG	Bottom Board (1)
1	[SHS2481	Foot (4)
	SHR5257	Cover (1)
	SDZ051-2	Cord,Dial (1.3m)
	SHR9663	Holder,LED (1)
	SHE73	Spacer (2)
	SHR415	Lock Pin (2)
	SNE2099	Bracket,Tuning Shaft (1)
	SMX789	Insulation Plate (2)
	SGP3830	Rear Panel (1)
	RHR110	Bushing (1)
	SGK1795	Label(Terminal Board) (1)
	SMC1103	Cover (1)
	SJP9105	Socket (1)
	SHR401-1	Look Pin (1)
	SMC1105	Cover (1)
	RJT202B	Terminal (1)
REWS		
Ⓢ	XTB3+8BFN	Tapping,⊕3×8 (17)
Ⓢ	XTV3+10BFN	Tapping,⊕3×10 (5)

Ref. No.	Part No.	Description
SCREWS		
N3 Ⓢ	XTN26+6B	Tapping,⊕2.6×6 (2)
N4 Ⓢ	XTN3+8B	Tapping,⊕3×8 (7)
N5 Ⓢ	XSN26+5	⊕2.6×5 (1)
N6 Ⓢ	XTB4+8BFZ	Tapping,⊕4×8 (4)
N7 Ⓢ○Ⓦ	XTB3+8BFN	Tapping,⊕3×8 (2)
N7 ⓈⓇ	XTB3+8BFZ	Tapping,⊕3×8 (2)
N8 ○Ⓦ	SNE2095-2	Tapping(Silver) (4)
N8 Ⓡ	SNE2095-3	Tapping(Black) (4)
N9	XTBS3+8BFZ1	Tapping,with Detent, ⊕3×8 (28)
N10 Ⓢ	XTB3+16BFN	Tapping,⊕3×16 (2)
N11 Ⓢ	XTB3+8BFZ	Tapping,⊕3×8 (4)
N12 Ⓢ	XSN3+6S	⊕3×6 (3)
WASHERS		
N15	SHW41K20	Slow up Gear (2)
N16 Ⓢ	XWG3	Plain,ϕ3 (7)
N17 Ⓢ	XWA26B	Spring,ϕ2.6 (1)
N18 Ⓢ	XWA3B	Spring,ϕ3 (3)
NUTS		
N20	SNE4021	Volume (1)
N21	SNE4045	Tuning Shaft (1)
ACCESSORIES		
A1	SJP2189	Cord (1)
A2	SSA901	FM Feeder Antenna (1)
A3	SSA611-1	Loop Antenna (1)
A4	SMA231	HolderB,Loop Antenna (1)
A5	SMA233-1	HolderA,Loop Antenna (1)
A6	XTN3+10AFZ	Screw,Loop Antenna Holder (2)
A7	SQF11841	Instruction Book. (1)
PACKING PARTS		
P1 ○	SPP723	Polythylene Bag (1)
P1 ⓇⓌ	SPP721	Polyethylene Bag (1)
P2	SPS3997	Pad,Front Side (1)
P3	SPS3999-3	Rad,Rear Side (1)
P4	SPG4539	Carton Box (1)
P5 ○only	SGK1411	Lebel (2)
P5 Ⓡonly	SGK1473	Lebel (2)
P5 Ⓦonly	SGK1473-2	Lebel (2)

■ EXPLODED VIEWS (Cabinet)



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N5
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Power trans former(T1)
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Power switch(S701)
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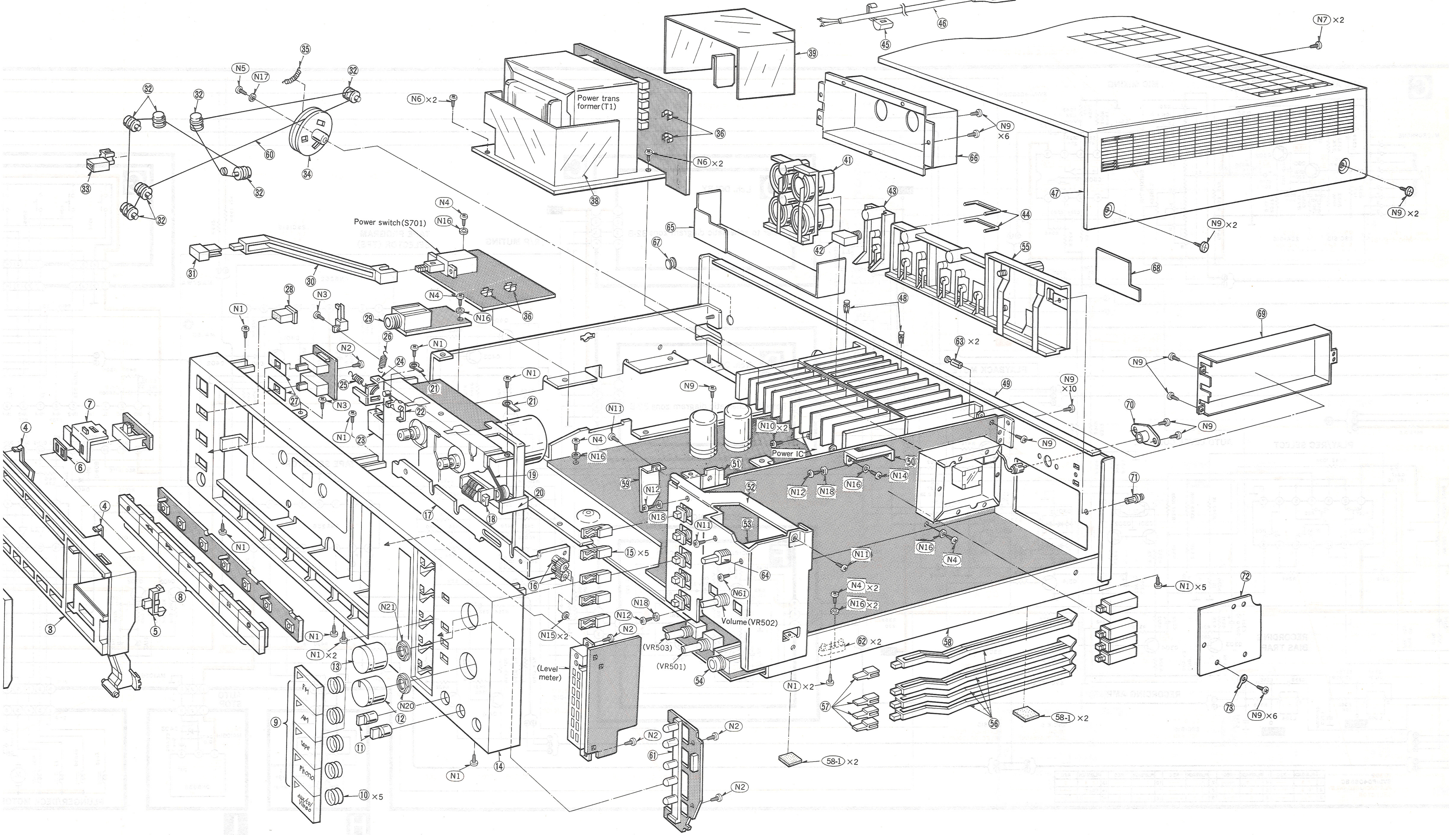
⑱
N18
53
④
N11
N1
⑮×5
⑯
⑧
N61
N18
⑤
N21
N12
Volume(VR5
③
①
N1
N15×2
N2
N1×2
⑬
(VR503)
(Level meter)
(VR501)
N20
54
⑫
⑨
FM
AM
tape
Phono
aux/Video
⑪
N2
N2
61
⑭
N1
⑩×5
N2

VIEWS (Cabinet)


Power trans former(T1)
Power switch(S701)
Power IC
Volume(VR502)
(VR503)
(VR501)
(Level meter)
N1
N1 ×2
N1 ×5
N2
N3
N4
N4 ×2
N5
N6 ×2
N7 ×2
N9
N9 ×2
N9 ×6
N9 ×10
N10 ×2
N11
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N14
N15 ×2
N16
N16 ×2
N17
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N20
N21
N61
FM
AM
tape
Phono
aux/cd/video
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